The
India Weather Review
1899 to 1902

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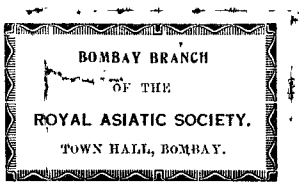

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GOVERNMENT OF INDIA.

METEOROLOGICAL DEPARTMENT.

THE

INDIA WEATHER REVIEW

FOR THE YEAR

1899.

134693

BY

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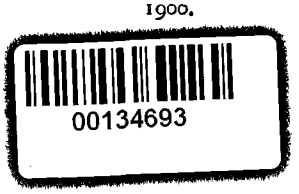
1900.



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Corrigenda in India Monthly Weather Reviews for the year 1899.

TEXT.

Page.	Column.	Part.	Correction.
26	1	January 1899 . .	*For* "—·91" *read* —·091 against Deccan in figure column 3 under Absolute Humidity in the 2nd tabular statement.
26	2	Ditto „ . .	*For* "42" *read* 44 against Buldana in figure column 2 under Relative Humidity in the 1st tabular statement.
60	1	February „ . .	*For* "—," *read* —·042 against Quetta in figure column 4 under 13th February of the tabular statement.
66	2	Ditto „ . .	*Omit* "0," "0" against Bhavnagar Para in figure columns 3 and 4 of the 2nd tabular statement.
77	...	Ditto „ . .	*For* "+0·09" *read* +0·11 against Malabar in figure column 3 under Rainfall of the tabular statement.
121	2	March „ . .	*For* "·312" *read* ·302 against Khandwa in figure column 2 under heading Absolute Humidity in the 1st tabular statement.
152	1	April „ . .	*For* "88·8" and "87·5" *read* 88·4 and 88·2 respectively against Salem and Madura in figure column 2 under heading Mean daily temperature of the table.
153	2	Ditto „ . .	*For* "1·1" *read* 1·14 against South India in figure column 2 under Rainfall of the table.
176	2	Ditto „ . .	*For* "+825" *read* +285 against Madras South in figure column 4 under Rainfall in the 2nd tabular statement.
201	2	May „ . .	*For* "7·92" and "+0·79" *read* 7·99 and +0·86, respectively, against Bengal and Orissa in figure columns 1 and 3 of the tabular statement.
214	1	Ditto „ . .	*For* "2·8" *read* +2·8 against Dinajpur in figure column 3 under Mean maximum temperature in the 2nd tabular statement.
„	2	Ditto „ . .	*For* "—2·" *read* —2·0 against Madura in figure column 3 under Mean maximum temperature in the 1st tabular statement.
217	...	Ditto „ . .	*For* "—1·" *read* —1·4 against Punjab West in figure column 3 under Variation from normal of month in the tabular statement.
218	2	Ditto „ . .	*For* "+8·" *read* +8·7 against Bihar in figure column 6 of the 1st tabular statement.
221	1	Ditto „ . .	*For* "87·0" *read* 87·8 against Raipur in figure column 1 of the 1st tabular statement.
231	...	Ditto „ . .	*For* "—0·25" *read* —0·27 against Bombay Deccan in column 3 under Rainfall of the tabular statement.
234	1	Ditto „ . .	*For* "—0·25" *read* —0·27 against Bombay Deccan in figure column 3 under Rainfall in the 2nd tabular statement.
235	2	Ditto „ . .	*For* "—" *read* —5 against Kurnool in figure column 4 under Rainfall in the tabular statement.
254	1	June „ . .	*Insert* —0·3 against Sind in figure column 1 of the 2nd tabular statement.
256	1	Ditto „ . .	*For* "5·5" *read* +5·5 against Punjab in figure column 5 of the 1st tabular statement.
„	1	Ditto „ . .	*For* "7·3" *read* +7·3 against (21st June) Mooltan in figure column 2 of the 2nd tabular statement.
259	2	Ditto „ . .	*For* "14·53," "+0·88" and "+8" *read* 14·55, +0·90 and +7, respectively, against Bengal and Orissa in figure columns 1, 3 and 4 of the tabular statement.
268	2	Ditto „ . .	*For* "6·1" *read* +6·1 against (3rd June) Seoni in figure column 1 of the 3rd tabular statement.
271	1	Ditto „ . .	*For* "—1" *read* —1·6 against West Coast in figure column 6 of the 1st tabular statement.
272	2	Ditto „ . .	*For* "·1" *read* +2·7 against Madras Deccan in figure column 4 of the 2nd tabular statement.
284	...	Ditto „ . .	*Omit* decimal point from the figures in column 4 of the 2nd tabular statement.
287	2	Ditto „ . .	*For* "2·14" *read* 27·14 against Konkan in figure column 2 of the 2nd tabular statement.
325	...	July „ . .	*For* "+1·6," "+0·7," "+0·4" and "—0·5" *read* —0·6, —0·5, —0·8 and —1·8, respectively, in the last figure column of the last tabular statement.
326	...	Ditto „ . .	*For* figures in the last figure column of the tabular statement, beginning from top of the column *read* —0·3, ..., —2·3, —0·3, —1·1, —0·6, —1·9, +0·7, —1·2, —2·2, —2·3, —3·4, —2·3, ..., —3·3, —2·1, —2·4, —1·7, —1·6, —2·8, —0·7, +0·9, —2·1, 0 , —0·9, —0·5, +1·7, +2·9 +0·7, +4·7, —0·6, +1·6, ..., +2·7, +2·4, +0·6, —0·4, +1·3, —0·2, +1·8, +1·0, +7·6, —1·6, +0·7, —1·1, +3·2, +2·6, +2·8, +2·4, +2·9 and +0·3, respectively.
330	2	Ditto „ . .	*For* "+1·0," *read* +10·0 against Berar in figure column 1 of the 2nd tabular statement.

Corrigenda in India Monthly Weather Reviews for the year 1899—*contd.*

TEXT—*concld.*

Page.	Column.	Part.	Correction.
377	2	August 1899 . .	*For* "23·68," "—2·22" and "—8" *read* 23·84. —2·04 and —7, respectively, against Burma Coast and Bay Islands in figure columns 1, 3 and 4 in the 1st tabular statement.
393	...	Ditto ,, . .	*For* "+0·1" *read* —0·1 against Hyderabad South in last figure column of the 1st tabular statement.
400	1	Ditto ,, . .	*For* "2" *read* 82 against Port Blair in figure column 2 under Steadiness of the 1st tabular statement.
403	1	Ditto ,, . .	*For* "8" *read* 78 against Roorkee in figure column 2 under Relative Humidity in the 2nd tabular statement.
438	2	September,, . .	*For* "+6·6" *read* +4·6 against Madras Deccan in figure column 3 of the 1st tabular statement.
443	2	Ditto ,, . .	*For* "19·12" and "—1·71" *read* 19·14 and —1·68, respectively, against Burma Coast and Bay Islands in figure columns 1 and 3 of the tabular statement.
450	1	Ditto ,, . .	*For* "2·55" *read* 2·04 against Konkan in figure column 7 of the 2nd tabular statement.
456	2	Ditto ,, . .	*For* "82·2" *read* 83·2 against Mangalore in figure column 2 of the 1st tabular statement.
469	2	Ditto ,, . .	*Insert* 0 against Wellington in figure column 6 of the 3rd tabular statement.
474	1	Ditto ,, . .	*For* "22·8" *read* "22·89" against Assam Hills in figure column 1 of the 1st tabular statement.
479	1	Ditto ,, . .	*Insert* — (*minus*) against each group of figures in column 3 of the 2nd tabular statement.
508	2	October ,, . .	*For* "—17" *read* +17 against South India in figure column 4 of the 1st tabular statement.
515	2	Ditto ,, . .	*For* "82 5," "82 45," "83 45," "87 40" and "90 15" *read* 11 30, 14 30, 17 0, 21 20 and 23 45, respectively, in figure column 2 and *for* "11 30," "14 30," "17 0," "21 20" and "23 45" *read* 82 5, 82 45, 83 45, 87 40 and 90 15, respectively, in figure column 3 of the 2nd tabular statement.
528	...	Ditto ,, . .	*For* "+0·9" *read* +0·7 against East Coast North in figure column 1 under Variation from normal of month of the tabular statement.
532	1	Ditto ,, . .	*For* "+1·0" *read*—1·0 against Madras Coast in figure column 1 of the 2nd tabular statement.
534	1	Ditto ,, . .	*For* "—1·0" *read* +1·0 against Central Provinces in figure column 3 of the 2nd tabular statement.
539	2	Ditto ,, . .	*For* "+·008" *read* +·006 against Rangoon in figure column 3 *under* Absolute Humidity of the 1st tabular statement.
,,	2	Ditto ,, . .	*For* "—3" *read* +3 against Orissa in figure column 3 under Relative Humidity of the 3rd tabular statement.
546	2	Ditto ,, . .	*For* "5·87" *read* 2·87 against North-Western Provinces (East Submontane) in figure column 2 under Rainfall in the 2nd tabular statement.
593	2	November,, . .	*For* "+1·6" *read* +1·3 against South India in figure column 3 of the 1st tabular statement.
632	2	December,, . .	*For* "66·4" *read* 66·6 against Agra in figure column 1 of the tabular statement.
647	...	Ditto ,, . .	*For* "8·6" *read* 85·6 against East Coast Central in figure column 1 under Actual temperature in the 1st tabular statement.
650	1	Ditto ,, . .	*For* "+6" *read* +6·1 against (24th December) Punjab in figure column 2 of the 2nd tabular statement.

Corrigenda in India Monthly Weather Reviews for the year 1899—*contd.*

TABLES I AND [illegible]

Page.	Part.	Table.	Meteorological Province or Station.	Head[illegible]	olumn umber.	Correction.
35	January 1899	I	Narayanganj	Rain[illegible]	9	*For* "+1·3" *read* +1·30.
,,	Ditto ,,	I	Saugor Island	H[illegible]	1	*For* "10·63" *read* 0·63.
36	Ditto ,,	I	Chaibassa	[illegible]	8	*For* "·231" *read* ·233.
37	Ditto ,,	I	Puri	[illegible]	9	*For* "—0·05" *read* +0·05.
,,	Ditto ,,	I	Gaya	[illegible]	3	*For* "+1·67" *read* +1·69.
39	Ditto ,,	I	Jhansi	[illegible]	8	*For* "59" *read* 0·59.
40	Ditto ,,	I	Mormugao	[illegible]	13	*For* "25·1" *read* 25·7.
42	Ditto ,,	I	Murree	[illegible]	4	*For* "23·90" *read* 23·902.
,,	Ditto ,,	I	Chakrata	[illegible]	7	*For* "—2·8" *read* —3·3.
43	Ditto ,,	I	Mercara	[illegible]	9	*For* "—0·44" *read* —0·04.
,,	Ditto ,,	I	Skardu	[illegible]	6, 8 and 9.	*For* "?" "?" "?" *read* —1·97, 2·28 and —1·97, respectively.
,,	Ditto ,,	I	Murree	D[illegible]	9	*For* "—3·26" *read* —3·36.
45	Ditto ,,	I	Ispahan	Heaviest rainfall during month.	1	*For* "10·10" *read* 0·10.
46	Ditto ,,	II	Ludhiana	Temp., Wet-bulb	1	*For* "31·9" *read* 37·9.
49	Ditto ,,	II	Chitaldroog	Humidity	2	*For* "48" *read* 43.
82	February ,,	I	Faridpur	Temperature of air	11	*For* "49·9" *read* 49·0.
84	Ditto ,,	I	Cuttack	Ditto	7	*For* "+0·8" *read* +0·9.
,,	Ditto ,,	I	Hazaribagh	Ditto	13	*For* "38" *read* 38·1.
,,	Ditto ,,	I	Balasore	Elevation of bar-cistern above sea-level.	1	*For* "56" *read* 46.
91	Ditto ,,	I	Gopalpur	Wind velocity	3	*For* "?" *read* +41.
,,	Ditto ,,	I	Ditto	Rainfall	1	*Insert* 0.
,,	Ditto ,,	I	Sharigh	Ditto	7	*Insert* 0·95.
92	Ditto ,,	I	Chakrata	Pressure, 8 A.M., etc.	4 and 8	*For* "23·37" and "·25" *read* 23·377 and ·254, respectively.
93	Ditto ,,	I	Poo	Rainfall	6	*For* "?" *read* —1·88.
,,	Ditto ,,	I	Wellington	Ditto	3	*For* "+1·5" *read* +1·50.
94	Ditto ,,	II	Kurrachee	Temperature of air	7	*For* "7·4" *read* 75·4.
95	Ditto ,,	II	Hazaribagh	Vapour tension	4	*For* "·347" *read* ·247.
,,	Ditto ,,	II	Darbhanga	Humidity	3	*For* "4" *read* 46.
96	Ditto ,,	II	Darjeeling	Temp., Wet-bulb	4	*For* "58·6" *read* 39·2.
97	Ditto ,,	II	Bangalore	Cloud	4	*For* "...0·5" *read* —0·5.
132	March ,,	I	Ranchi	Pressure, 8 A.M., etc.	6	*For* "27·619" *read* 27·617.
137	Ditto ,,	I	Nagpur	Wind velocity	3	*For* "+15" *read* —15.
142	Ditto ,,	II	Jaipur	Pressure	4 and 5	*For* "28·461" and "+·011" *read* 28·465 and +·015, respectively.
,,	Ditto ,,	II	Karwar	Temp., Wet-bulb	2	*Insert* 75·6.
145	Ditto ,,	II	Katmandu	Rainfall	1 and 2	*For* "..." and "..." *read* 1·22 and 0·88, respectively.

Corrigenda in India Monthly Weather Reviews for the year 1899—*contd.*

TABLES I AND II—*contd.*

Page.	Part.	Table.	Meteorological Province ion.	Heading.	Column number.	Correction.
179	April 1899	I	nd Orissa.	Rainfall	5	*For* "2·64" *read* 2·60.
,,	Ditto ,,	I		Ditto	3	*For* "+3·30" *read* +4·30.
,,	Ditto ,,	I		Wind direction	7	*For* "14" *read* 11.
180	Ditto ,,	I		Pressure, 8 A.M., etc.	1	*For* "29·323" *read* 29·823.
,,	Ditto ,,	I		Ditto	1	*For* "29·075" *read* 29·072.
181	Ditto ,,	I		Mean cloud amount	1	*For* "2·7" *read* 2·3.
,,	Ditto ,,	I		Wind direction	8	*For* "1" *read* ....
182	Ditto ,,	I		Temperature of air	9	*For* "10·3" *read* 110·3.
183	Ditto ,,	I		Rainfall	7	*For* "0·02" *read* 0.
184	Ditto ,,	I		Temperature of air	13	*For* "33·6" *read* 34·8.
,,	Ditto ,,	I		ssure, 8 A.M., etc.	3	*For* "29·824" *read* 29·822.
187	Ditto ,,	I		d direction	2	*Insert* 1.
,,	Ditto ,,	I		fall	6	*For* "—0·69" *read* —1·69.
236	May ,,	I		mperature of air	13	*For* "81·0" *read* 31·0.
237	Ditto ,,	I		Rainfall	4 and 6	*For* "7·92" and "+0·79" *read* 7·99 and +0·26, respectively.
,,	Ditto ,,	I		Ditto	4, 6, 7 and 9.	*For* "5·47," "+0·40," "7·46" and "—0·63" *read* 7·54, +2·47, 9·53 and +1·44, respectively.
,,	Ditto ,,	I	Midnapore	Heaviest rainfall during month.	1	*For* "2·07" *read* 2·70.
239	Ditto ,,	I	Allahabad	Mean cloud amount	1	*For* "·2" *read* 1·2.
,,	Ditto ,,	I	Mainpuri	Wind velocity	1	*For* "4·" *read* 4·5.
241	Ditto ,,	I	Mooltan	Heaviest rainfall during month.	1	*Insert* 0.
242	Ditto ,,	I	Sholapur	Temperature of air	13	*For* "36·2" *read* 36·7.
243	Ditto ,,	I	Surat	Rainfall	8	*For* "·20" *read* 0·20.
,,	Ditto ,,	I	Jhansi	Wind velocity	1	*For* "6·9" *read* 4·9.
,,	Ditto ,,	I	Bijapur	Rainfall	8	*For* "1·23" *read* 1·93.
245	Ditto ,,	I	Trichinopoly	Ditto	6	*For* "—0·06" *read* +0·06.
246	Ditto ,,	I	Teheran	Temperature of air	9	*For* "293·6" *read* 93·6.
,,	Ditto ,,	I	Ispahan	Ditto	9	*For* "991·8" *read* 91·8.
,,	Ditto ,,	I	Bushire	Ditto	13	*Insert* 32·4.
,,	Ditto ,,	I	Jask	Ditto	13	*Insert* 24·6.
,,	Ditto ,,	I	.....	Ditto	13	Between Bushire and Jask *omit* 12·3.
,,	Ditto ,,	I	Muscat	Ditto	13	*For* "42·3" *read* 12·3.
,,	Ditto ,,	I	Baghdad	Ditto	13	*For* "91·7" *read* 42·9.
,,	Ditto ,,	I	Aden	Ditto	13	*For* "42·4" *read* 19·9.
,,	Ditto ,,	I	Perim	Ditto	13	*For* "34·6" *read* 27·5.
,,	Ditto ,,	I	Kabul	Ditto	13	*For* "78·7" *read* 43·3.
,,	Ditto ,,	I	Kashgar	Ditto	13	*For* "11·1" *read* 49·1.
,,	Ditto ,,	I	Amini Divi	Ditto	12 and 13	*Omit* 29th and 14·9.
,,	Ditto ,,	I	Minicoy	Ditto	13	*For* "95·3" *read* 1.
248	Ditto ,,	II	Cocos Island	Temp., Wet-bulb	3	*For* "69·9" *read* 79·9.
249	Ditto ,,	II	Udaipur	Vapour tension	4	*For* "·385" *read* ·485.

Corrigenda in India Monthly Weather Reviews for the year 1899—*contd.*

TABLES I AND II—*contd.*

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
290	June 1899	I	II.—Burma Inland	Temperature of air.	3, 5 and 13.	*For* "—1·2," "—0·1" and "22·4" *read* —1·0, +0·3 and 22·2, respectively.
,,	Ditto ,,	I	Kindat	Temperature of air.	13	*For* "21·5" *read* 20·5.
291	Ditto ,,	I	Tavoy	Wind direction	1	*For* "7" *read* 27.
,,	Ditto ,,	I	Lashio	Rainfall	6	*For* "+3·83" *read* +3·89.
,,	Ditto ,,	I	Diamond Island	Rainfall	4, 6, 7 and 9.	*For* "15·52," "—7·68," "15·52" and "—7·68" *read* 15·53, —7·67, 15·53 and —7·67, respectively.
,,	Ditto ,,	I	II.—Burma Inland	Ditto	4	*For* "88·1" *read* 8·81.
,,	Ditto ,,	I	IV.—Bengal and Orissa.	Ditto	4 and 6	*For* "14·53" and "+0·88" *read* 14·55 and +0·90, respectively.
,,	Ditto ,,	I	Midnapore	Ditto	4, 6, 7 and 9.	*For* "12·65," "+3·28," "12·65" and "+3·23" *read* 13·28, +3·86, 13·28 and 3·86, respectively.
294	Ditto ,,	I	VII.—Indus Valley and N.-W. Rajputana.	Temperature of air	5	*For* "+1·1" *read* +1·4.
,,	Ditto ,,	I	Jamnagar	Elevation of barcistern above sea-level.	1	*Insert* 61.
295	Ditto ,,	I	Jaipur	Rainfall	3	*For* "+5·20" *read* +5·30.
,,	Ditto ,,	I	Ahmedabad	Ditto	7	*For* "3·54" *read* 3·45.
296	Ditto ,,	I	Sambalpur	Pressure, 8 A.M., etc.	8	*For* "·108" *read* ·138.
297	Ditto ,,	I	XI.—South India	Rainfall	4 and 5	*For* "1·3" and "·81" *read* 1·3 and 2·81, respectively.
298	Ditto ,,	I	Murree	Temperature of air.	13	*For* "44" *read* 44·0.
300	Ditto ,,	I	Perim	Ditto	4, 6 and 8	*For* "85·1," "90·4" and "10·5" *read* 84·4, 90·0, and 11·2 respectively.
301	Ditto ,,	I	Kashgar	Rainfall	6	*For* "?" *read* —0·33.
,,	Ditto ,,	I	Minicoy	Wind Velocity	1	*For* "17·2" *read* 17·0.
,,	Ditto ,,	I	Zanzibar Dunga	Rainfall	7	*For* "?" *read* 0·40.
354	July ,,	I	Sibsagar	Pressure, 8 A.M., etc.	8	*For* "·323" *read* ·326.
355	Ditto ,,	I	Port Blair	Wind velocity	3	*For* "—45" *read* +45.
,,	Ditto ,,	I	Midnapore	Rainfall	7 and 9	*For* "31·64" and "+10·59" *read* 32·27 and +11·22, respectively.
356	Ditto ,,	I	Rampur Boalia	Temperature of air.	2	*For* "87·5" *read* 87·7.
,,	Ditto ,,	I	Motihari	Ditto	4	*For* "77·8" *read* 77·6.
358	Ditto ,,	I	Rawalpindi	Ditto	4	*For* "77·7" *read* 77·6.
,,	Ditto ,,	I	Khushab	Ditto	4	*Insert* 84·6.
359	Ditto ,,	I	Jamnagar	Wind velocity	1	*For* "1·1" *read* 26·4.
360	Ditto ,,	I	Jhansi	Ditto	5	*For* "—2·6" *read* —0·6.
,,	Ditto ,,	I	Indur	Ditto	2	*For* "91·1" *read* 91·2.
,,	Ditto ,,	I	Karwar	Pressure, 8 A.M., etc.	1	*For* "129·823" *read* 29·823.
361	Ditto ,,	I	Tinnevelly	Rainfall	9	*For* "0·96" *read* —0·96.
362	Ditto ,,	I	Skardu	Pressure, 8 A.M., etc.	8	*For* "·27" *read* ·276.
366	Ditto ,,	II	Saugor Island	Pressure	4	*For* "5" *read* ·551.
,,	Ditto ,,	II	Saugor Island	Temperature of air.	2	*For* "8" *read* 80·6.
367	Ditto ,,	II	Deesa	Cloud	1	*For* "8" *read* 8·0.

Corrigenda in India Monthly Weather Reviews for the year 1899—*contd.*

TABLES I AND II—*contd.*

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
421	August 1899	I	I.—Burma Coast and Bay Islands.	Rainfall	4 and 6	*For* "23·68" and "—2·22" *read* 23·84 and —2·04 respectively.
,,	Ditto ,,	I	Rangoon	Ditto	4, 6, 7 and 9.	*For* "26·40," "+8·21," "57·43" and "+0·05" *read* 27·01, +8·82, 58·04 and +0·66, respectively.
,,	Ditto ,,	I	Diamond Island	Ditto	4, 6, 7 and 9.	*For* "15·23," "—7·46," "42·04" and "—30·13" *read* 16·23, —6·46, 43·04 and —29·13, respectively.
,,	Ditto ,,	I	Noakhali	Wind direction	2	*Omit* 8.
,,	Ditto ,,	I	Midnapore	Rainfall	7 and 9	*For* "40·81" and "+7·43" *read* 41·44 and "8·06," respectively.
422	Ditto ,,	I	Darbhanga	Pressure, 8 A.M., etc.	8	*For* "·217" *read* ·207.
423	Ditto ,,	I	Dinajpur	Wind direction	3	*For* "5" *read* 3.
427	Ditto ,,	I	Malegaon	Rainfall	3	*For* "—6·91" *read* —3·91.
432	Ditto ,,	II	Khandwa	Temperature, Wet bulb.	4	*For* "72·0" *read* 72·9.
433	Ditto ,,	II	Jacobabad	Cloud	2	*For* "5" *read* 0·5.
434	Ditto ,,	II	Minicoy	Temperature of air.	9	*Omit* 75·8.
,,	Ditto ,,	II	Zanzibar	Ditto	9	*For* "77·4" *read* 75·8.
,,	Ditto ,,	II	Port Victoria (Seychelles)	Ditto	9	*For* "68·9" *read* 77·4.
,,	Ditto ,,	II	Mauritius (Pamplemouses).	Ditto	9	*Insert* 68·9.
484	September ,,	I	Car-Nicobar	Ditto	13	*For* "15·8" *read* 15·6.
485	Ditto ,,	I	I.—Burma Coast and Bay Islands.	Rainfall	4 and 6	*For* "19·12" and "—1·71" *read* 19·14 and —1·68, respectively.
,,	Ditto ,,	I	Diamond Island	Ditto	4, 6, 7 and 9.	*For* "9·34," "—9·85," "51·38" and "—39·98" *read* 9·61, —9·58, 51·65 and —39·71, respectively.
,,	Ditto ,,	I	Midnapore	Ditto	7 and 9	*For* "52·01" and "+10·97" *read* 52·64 and +11·60 respectively.
486	Ditto ,,	I	Allahabad	Temperature of air.	7	*For* "+0·9" *read* +0·8.
489	Ditto ,,	I	Jamnagar	Wind Velocity	1	*For* "0·8" *read* 19·2.
490	Ditto ,,	I	Madura	Ditto	3	*Insert* 0.
,,	Ditto ,,	I	Sholapur	Ditto	13.	*For* "1·6" *read* 31·6.
491	Ditto ,,	I	Ratnagiri	Rainfall	4 and 5	*For* "9·3" and "3·18" *read* 9·13 and 13·18, respectively.
496	Ditto ,,	II	Poona	Pressure	2	*For* "27·8" *read* 27·978.
,,	Ditto ,,	II	Karwar	Ditto	1	*For* "·3" *read* ·933.
498	Ditto ,,	II	Port Victoria (Seychelles)	Temperature of air.	7	*For* "80·" *read* 80·2.
555	October ,,	I	Jalpaiguri	Rainfall	6 and 9	*For* "—3·55" *read* —3·58.
,,	Ditto ,,	I	Muzaffarpur.	Ditto	9	*For* "—1·80" *read* —0·80.
557	Ditto ,,	I	Montgomery	Ditto	8 and 9	*For* "0·06" and "—0·06" *read* 0·15. and —0·15, respectively.
,,	Ditto ,,	I	Surat	Wind velocity	2	*Insert* 5·1.
,,	Ditto ,,	I	Jamnagar	Ditto	1	*For* "0·5" *read* 12·0.
558	Ditto ,,	I	IX.—Deccan	Temperature of air.	2	*For* "95" *read* 95·1.
,,	Ditto ,,	I	Sambalpur	Pressure, 8 A.M., etc.	8	*For* "1·87" *read* ·187.
,,	Ditto ,,	I	Madura	Ditto	4	*For* "29·55" *read* 29·552.

Corrigenda in India Monthly Weather Reviews for the year 1899.—*concld.*

TABLES I AND II—*concld.*

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
561	October 1899	I	Hassan	Rainfall	7 and 9	*Insert* 2·62 and —3·06, respectively.
562	Ditto ,,	I	Baghdad	Temperature of air.	8	*For* "28·5" *read* 28·3.
,,	Ditto ,,	I	Minicoy	Pressure, 8 A.M., etc.	8	*For* "1·37" *read* ·137.
610	November ,,	I	Faridpur	Temperature of air	8	*For* "20·3" *read* 20·4.
612	Ditto ,,	I	Balasore	Ditto	8	*For* "24·6" *read* 24·2.
614	Ditto ,,	I	Peshawar	Ditto	8	*For* "8·9" *read* 28·9.
615	Ditto ,,	I	Rawalpindi	Rainfall	9	*For* "—0·14" *read* +0·14.
,,	Ditto ,,	I	Jamnagar	Wind velocity	1	*For* "0·4" *read* 9·6.
616	Ditto ,,	I	Trivandrum	Pressure, 8 A.M., etc.	1	*For* "2·801" *read* 29·801.
,,	Ditto ,,	I	Trivandrum	Temperature of air.	1	*For* "769" *read* 76·9.
618	Ditto ,,	I	Madura	Ditto	13	*For* "27·" *read* 27·3.
,,	Ditto ,,	I	Gilgit	Ditto	13	*For* "30·2" *read* 29·7.
619	Ditto ,,	I	Madura	Wind velocity	2	*For* "13·8" *read* 3·8.
620	Ditto ,,	I	Baghdad	Temperature of air.	7	*Insert* —3·2.
621	Ditto ,,	I	Simla	Rainfall	7	*For* "3·21" *read* 0·21.
624	Ditto ,,	II	Mauritius (Pamplemouses).	Temperature of air.	9	*For* "6·6" *read* 76·6.
671	December ,,	I	Jamnagar	Wind velocity	1	*For* "0·4" *read* 9·6.
674	Ditto ,,	I	Dras	Temperature of air.	11	*For* "22·9" *read* —22·9.
675	Ditto ,,	I	Salem	Rainfall	8	*For* "112·24" *read* 12·24.
676	Ditto ,,	I	Ispahan	Temperature of air.	8	*For* "3·0" *read* 23·0.
677	Ditto ,,	I	Pachmarhi	Wind velocity	3	*For* "—62" *read* +62.

ANNUAL SUMMARY, 1899.

INTRODUCTION.

The present annual summary completes the discussion of the meteorology of India for the year 1899.

It should be noted that in the monthly reviews it is attempted to present the facts and data from two different points of view. Meteorological data in India are chiefly utilized for the following purposes:—

1st.—In the discussion of the prevalence and spread of diseases, more especially of cholera and other diseases of an epidemic character.

2nd.—In connection with agricultural questions, more especially the progress and character of the crops as determined by the weather conditions of the period.

India has hence been divided into two groups of divisions from what may be termed the medical and agricultural stand-points. For the comparison of medical and meteorological statistics, India is arranged into the following provinces, which are believed to be fairly homogeneous so far as the conditions of the prevalence of the more common diseases are concerned:—

(1) Burma Coast and Bay Islands.
(2) Burma Inland.
(3) Assam.
(4) Bengal and Orissa.
(5) Gangetic Plain and Chota Nagpur.
(6) Upper Sub-Himalayas, including the sub-montane districts of the North-Western Provinces and the Punjab and the meteorological divisions of the South-East, South, Central and North Punjab.
(7) Indus Valley and North-West Rajputana.
(8) East Rajputana, Central India and Gujarat.
(9) Deccan.
(10) West Coast.
(11) South India.

The data for each of these divisions are given in Table I in large figures, and the portion of each monthly review, entitled, "Summary of the chief features of the weather in India during the month," is intended to give a sketch of the broader and more important features of the weather in India for the use of those who study the relations between the prevalence and spread of diseases and the weather conditions prevailing at the time in India.

According to the second method of arrangement, India is divided into 57 meteorological districts or divisions from the agricultural standpoint, each of which is fairly homogeneous so far as the distribution of rainfall and the general character of the corps and the conditions of their growth are concerned. The following gives the two series of divisions arranged under the respective political areas or provinces to which they belong:—

Political Division or Province.	Meteorological Division or District.	Meteorological Province.
BURMA	Tenasserim and Bay Islands.	Burma Coast and Bay Islands.
	Lower Burma	
	Arakan	
	Central Burma	Burma Inland.
	Upper ,,	
ASSAM	Assam (Surma)	Assam.
	,, (Brahmaputra)	
BENGAL	East Bengal	Bengal and Orissa.
	Deltaic ,,	
	Central ,,	
	North ,,	
	Orissa	
	Chota Nagpur	Gangetic Plain and Chota Nagpur.
	South Bihar	
	North ,,	
NORTH-WESTERN PROVINCES AND OUDH.	North-Western Provinces East	
	North-Western Provinces Central.	
	South Oudh	
	North ,,	
	North-Western Provinces East Sub-montane.	
	North-Western Provinces West Sub-montane.	Upper Sub-Himalayas.
PUNJAB	South-East Punjab	
	South ,,	
	Central ,,	
	Punjab Sub-montane	
	North Punjab	
	West Punjab	
BOMBAY NORTH	Sind	Indus Valley and North-West Rajputana.
	West Rajputana	
RAJPUTANA AND CENTRAL INDIA.	Central India, East	East Rajputana, Central India and Gujarat.
	Rajputana East, Central India West.	

Political Division or Province.	Meteorological Division or District.	Meteorological Province.
BOMBAY NORTH	Kathiawar	East Rajputana, Central India and Gujarat.
	Gujarat	
NORTH WESTERN PROVINCES.	North-Western Provinces West.	
BOMBAY	Bombay Deccan	Deccan.
	Khandesh	
BERAR	Berar	
CENTRAL PROVINCES.	Central Provinces West	
	,, ,, Central	
	,, ,, East	
HYDERABAD OR THE NIZAM'S DOMINIONS.	Hyderabad North	
	,, South	
BOMBAY	Konkan	West Coast.
	Malabar	
MADRAS	Madras South	South India.
	,, ,, Central	
	,, East Coast South	
	,, Central	
	,, East Coast Central	
	,, East Coast North	
COORG AND MYSORE.	Coorg	
	Mysore	
HILL DISTRICTS	Assam Hills	Hills.
	Bengal ,,	
	North-Western Provinces Hills.	
	Punjab Hills	
	Baluchistan Hills	

The double grouping is shown in Plate I at the end of this summary.

The data of Table I in the monthly reviews and in the present annual part are obtained, with a few exceptions, from the observations telegraphed daily to Simla for publication in the Daily Weather Report. In the case of thermometric observations, they are telegraphed to the nearest half degree. Hence the maxima and minima temperature data of the second class observatories derived from these telegraphic reports and given in that table occasionally differ to some slight extent from the means of the more exact data (recorded to tenths of a degree) tabulated in the observation forms sent into the Calcutta Office, and which are used in the calculation of the mean temperature data in Table II. There is also another reason why the mean maxima and minima data in Tables I and II differ to a slight extent. In Table I the daily or 24 hours' period is assumed to end at 8 A.M., and in Table II at 4 P. M., and hence the maximum temperature in Table I for any month of thirty-one days at any station gives the mean for thirty-one periods of 24 hours ending at 8 A.M. of the 31st, and in Table II for the same number of 24 hours' periods ending at 4 P.M, on the 31st, and hence virtually of a monthly period one day in advance of the former. Similarly, for months of 28, 29 or 3 days. These remarks will explain some of the slight discrepancies which may be found between the maxima and minima temperature mean data in Tables I and II, and hence also in the monthly mean variation data given in these tables in the monthly reviews and annual summary.

The methods of exposure of the instruments at observatories in India, and of the reduction of the observations and the calculation of mean data, have been fully stated and explained in the Annual Reports on the Meteorology of India, and need not be repeated. The reader is referred more especially to the Annual Report of the year 1885 and to the "Instructions to observers of the Indian Meteorological Department" for full information on this subject.

Temperature.

The methods of exposing the thermometers at observatories in India and of deducing the daily and monthly means from the observed readings of the instruments are described in pages 18-19 of the Annual Report for 1890.

The variations of the mean temperature of each month from the normal given in Table II of the monthly reviews are deduced by a comparison of the actual monthly means with the normal monthly means obtained by the same methods given in Table XII of average monthly temperatures of 87 stations in India and Ceylon, etc., in pages 19 to 22 of the Annual Report for the year 1890. Average data for 134 stations will also be found in pages 39 to 42 of the Annual Report for the year 1887.

Average or normal monthly temperatures of 82 second class stations were recently re-calculated and the whole of the data up to December 1896 utilized for the determination of these values. These normal means were given in Table I of the Annual Summary for 1896.

The variations obtained by a comparison of these normal means with the actual monthly means in Table II of the monthly weather reviews for the year are given in Table I.

The mean variations given in Table II of the Geographical Summary are derived from the variation data of Table II of the monthly weather reviews of the year 1899.

In Table I published in each monthly review, as in the Daily Weather Report, the mean temperature of the day is calculated by the formula, daily mean $= \frac{\text{Maximum} + \text{Minimum}}{2}$. It differs from the true daily mean by amounts varying slightly with the season. The variations of the daily or monthly actual means obtained by this method from normal daily or monthly means similarly calculated, usually differ very little from those obtained by the more laborious computation of true daily means and the comparison of these with normal true daily means. In Table I of the monthly weather reviews of the year 1899 the variations of the monthly mean maxima and minima temperatures from the normal, as well as the variations of the monthly mean temperatures (*i.e.*, $\frac{\text{Maximum} + \text{Minimum}}{2}$), are given.

Normal monthly mean maxima and minima temperatures of 94 stations calculated from the observations of the eleven years' period, 1878—1888, were given in the Annual Summary for 1891. The additional data for the years 1889—1893 have been recently utilized to furnish what are probably slightly more accurate means than those given in the 1891 Annual Summary. The re-calculated means were given in the 1894 Annual Summary, Tables I and II, and need not be repeated here.

Tables II and III(*a*), III(*b*) and III(*c*) give summaries of the temperature variation data for each month of the year 1899 and for the year. In the first table (Table II) the same division has been adopted as that employed in the Annual Reports from 1881 to 1890. This enables an exact comparison to be made of the temperature data of the year 1899 with those of previous years given in the Annual Reports. In the second set of tables [Table III(*a*), III(*b*) and III(*c*)] the varation data are given for the eleven meteorological provinces into which the empire is divided for the purpose chiefly of comparing meteorological and health statistics, and in the last table (Table IV) the data are given for 54 of the 57 smaller divisons or areas into which India is sub-divided with a view to the comparison of meteorological and crops statistics—

TABLE I.—*Comparison of monthly mean air temperatures in 1899 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands.	Port Blair	+1·0	+0·3	+0·5	−0·9	+0·1	−0·3	+1·7	+1·5	+0·1	+1·2	−0·1	−0·2	+0·4
	Rangoon	0	−0·7	+1·5	−0·1	−2·6	−0·3	+0·7	+0·1	+0·9	+1·1	−1·5	−1·4	−0·2
	Diamond Island	+1·6	+0·5	+1·0	+0·5	−0·7	+1·0	+2·1	+2·0	+1·8	+2·2	+0·2	−0·3	+1·0
	Cocos Island	+2·7	+1·0	+0·7	?	+0·9	+0·9	+1·4	+1·7	+1·7	+1·8	+0·9	+0·2	+1·3
Bengal and Orissa.	Akyab	−1·6	+0·6	+1·4	+0·3	−0·6	+0·3	0	+1·2	+0·6	?	?	?	?
	Chittagong	−1·5	+0·6	+1·1	−0·3	+0·9	−0·8	−0·2	+1·2	+0·6	−0·1	−2·4	−1·5	−0·2
	Calcutta (Alipore)	−2·2	+1·1	+2·4	+0·5	+1·1	−0·3	+0·1	+1·9	+2·2	0	−0·9	+0·8	+0·6
	Saugor Island	−2·3	+0·5	+1·4	−0·3	−0·1	−1·0	+0·1	+1·4	+1·4	−0·6	−1·8	+1·1	0
Gangetic Plain and Chota Nagpur.	False Point	−1·0	+0·7	+0·7	−0·7	−0·4	−1·2	−0·3	+1·7	+1·8	−0·1	−1·5	+0·4	0
	Hazaribagh	−3·5	+0·6	+3·3	−0·3	+0·5	+0·9	−1·1	+1·9	+2·1	+1·6	+1·3	+2·0	+0·8
	Darbhanga	−3·5	+1·1	+1·5	−2·2	+2·1	−0·8	−1·6	+0·7	+0·8	+0·2	−1·5	−0·7	−0·3
Upper Sub-Himalayas.	Allahabad	−4·1	+1·4	+1·6	−0·6	+1·5	−2·3	−3·0	+0·9	+0·6	−0·2	+0·2	+1·6	−0·2
	Dehra Dun	−3·7	+0·7	+2·5	−1·8	+0·9	−2·3	−2·0	+0·6	+0·3	+0·5	+0·6	+0·6	−0·3
	Roorkee	−4·2	+1·2	+3·1	−0·5	+2·0	−2·7	−1·9	+2·0	+2·0	+0·7	+0·3	+0·6	+0·2
	Meerut	−2·6	+1·7	+3·6	+0·6	+5·2	−3·1	−1·4	+3·7	+3·2	+1·2	+1·9	+3·0	+1·4
	Lahore	−1·2	+4·0	+5·1	+1·3	+6·5	+1·1	+3·4	+5·0	+5·2	+1·9	+4·6	+5·7	+3·6
	Ludhiana	−2·3	+3·3	+5·0	+0·2	+5·7	−0·3	+1·3	+3·6	+4·8	+1·4	+2·8	+3·7	+2·4
Indus Valley and North-West Rajputana.	Peshawar	−1·6	+2·1	+2·8	+0·8	+4·8	+2·1	+1·8	+1·3	+1·6	+0·5	+3·0	+3·4	+1·9
	Jacobabad	−2·2	+2·6	+2·4	+1·3	+3·3	+1·3	+1·5	+1·7	+1·0	+1·1	+4·1	+4·7	+1·9
	Kurrachee	−2·4	+1·3	−0·1	+2·5	+1·7	+0·6	+0·2	+1·6	+0·3	+0·1	+2·1	+4·6	+1·0

TABLE I.—*Comparison of monthly mean air temperatures in 1899 with the averages of past years*—contd.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
East Rajputana, Central India and Gujarat.	Jaipur	−2·3	+3·2	+3·8	+ 1·1	+2·6	−2·1	+0·5	+7·5	+4·5	+4·8	+4·2	+5·3	+2·8
	Deesa	−3·3	+1·7	+1·2	?	+0·3	−0·1	+3·8	+6·1	+4·7	+6·4	+4·6	+6·1	+2·9
Deccan	Belgaum	−1·4	−0·4	+0·3	−3·0	−1·4	−0·6	+0·5	+0·9	+1·2	+2·6	+1·2	+1·6	+0·1
	Sholapur	−1·0	+0·6	+1·7	−2·2	−0·2	+0·8	+3·6	+4·2	+2·5	+5·0	+3·2	+2·3	+1·7
	Poona	−2·4	+0·5	+1·9	−2·7	−0·4	−0·6	+1·0	+2·2	+1·8	+4·7	+2·5	+1·8	+0·9
	Akola	−2·8	+1·2	+1·9	−1·1	+0·4	+1·1	+2·6	+4·8	+6·2	+6·3	+4·6	+4·8	+2·5
	Buldana	−1·9	+1·1	+2·8	−3·2	−0·8	−0·5	+1·9	+4·0	+4·9	+7·0	+5·6	+4·6	+2·1
	Khandwa	−3·4	+2·2	+2·2	+0·7	+0·6	+1·1	+1·6	+4·7	+6·1	+7·2	+5·5	+5·2	+2·8
	Nagpur	−1·9	+0·4	+2·3	−2·0	+0·4	+2·2	+2·0	+3·2	+4·6	+4·5	+3·9	+4·4	+2·0
	Hyderabad (Deccan).	−0·1	+1·0	+1·4	−2·5	−1·4	+1·3	+2·7	+2·9	+2·7	+3·8	+2·6	+1·6	+1·3
West Coast	Bombay	−1·5	+0·4	+0·7	−0·2	+0·4	−0·8	+1·2	+1·3	+1·4	+1·8	+0·3	+1·1	+0·5
	Karwar	−1·8	−0·5	+0·8	−1·2	−0·8	−0·6	+1·8	+1·1	+0·2	+1·6	−0·7	−1·0	−0·1
South India	Salem	−0·9	−0·1	−0·6	−3·7	−0·5	+1·5	+3·7	+4·1	+0·4	+1·4	+0·3	+0·2	+0·5
	Chitaldroog	−1·2	−0·3	0	−2·7	−0·4	+0·4	+2·6	+2·8	+0·8	+2·1	+2·1	+1·8	+0·7
	Bangalore	0	+0·7	+0·3	−1·7	−0·8	+1·0	+3·3	+2·9	+0·6	+1·6	−0·7	−0·1	+0·6
	Hassan	−1·9	0	−0·7	−2·1	−0·3	0	+1·9	+1·8	+1·0	+1·6	−1·4	−1·0	−0·1
	Mysore	−1·6	+0·5	−0·9	−1·0	−0·1	−0·5	+1·8	+1·8	−0·3	+0·9	−1·0	−0·6	−0·1
	Madras	−0·7	−0·1	−0·7	−1·0	+0·3	+1·1	+1·8	+1·3	−0·7	−1·0	−0·4	−1·3	−0·1
	Bellary	−0·2	+0·9	0	−3·3	−0·4	+0·1	+1·8	+1·9	0	+1·9	+1·0	+1·0	+0·4
	Cocanada	+0·2	+1·3	+0·4	−0·4	−0·5	+1·6	+4·9	+2·4	+2·0	+1·0	−1·2	−0·3	+1·0
	Vizagapatam	−0·7	0	−0·4	−0·8	−0·5	−1·2	?	?	?	?	?	?	?
Hill Station, Baluchistan.	Quetta	−2·2	+3·1	+2·8	−0·3	+1·5	0	−1·0	0	−1·5	−0·5	+3·1	+3·6	+0·7
Hill Stations, Northern India.	Leh	−13·8	−3·2	+1·5	−2·1	+4·0	+3·4	+1·1	−1·5	−1·4	+0·4	+0·3	+0·3	−0·9
	Srinagar	−4·9	+3·3	+4·9	−3·3	+1·0	+1·3	+1·6	−0·8	−1·4	+1·5	+0·7	+2·0	+0·5
	Kailang	−6·1	+1·0	+2·0	−1·0	+3·1	+3·0	+1·2	−0·9	−1·6	−1·0	−0·4	+0·9	0
	Simla (Ridge)	−4·1	+0·6	+3·3	−3·6	+0·4	−0·9	−1·1	+0·1	0	+0·8	+0·4	−0·5	−0·4
	Chakrata	−3·3	+1·5	+3·6	−3·9	+0·7	−1·1	−0·9	−0·2	+0·3	+1·8	+0·6	+1·3	0
	Ranikhet	−3·5	+0·8	+4·3	−3·1	+3·2	+0·1	−0·6	+1·1	+1·5	+0·9	+0·5	+0·3	+0·5
	Katmandu	−4·1	+1·2	+2·0	−1·2	+2·3	−0·7	−0·8	−0·7	0	−0·3	−1·3	−2·9	−0·5
	Darjeeling	−2·4	?	+0·3	−0·6	+2·4	+0·3	0	+0·9	+1·2	−0·3	−1·7	−0·8	−0·1
Hill Stations, Central India.	Mount Abu	−2·8	+1·6	+2·2	−0·6	−0·6	0	+0·6	+3·4	+2·2	+4·4	+3·5	+4·3	+1·5
	Pachmarhi	−3·2	+0·7	+2·2	−0·5	+0·3	−0·2	−1·1	+3·2	+2·6	+4·2	+3·7	+3·5	+1·3
	Chikalda	−1·7	+1·3	+3·4	−2·3	−0·9	+0·5	−0·3	+2·0	+3·2	+6·8	+5·9	+4·9	+1·9

TABLE I.—*Comparison of monthly mean air temperatures in 1899 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Hill Station, Southern India.	Wellington .	−0·3	+0·4	−0·5	−1·6	−0·5	−0·6	+1·0	+0·4	+0·2	+0·8	−1·2	−0·8	−0·2
Extra Indian Stations.	Aden . . .	−0·7	−0·5	−0·2	−0·2	+0·2	+1·2	+1·8	+2·8	+0·9	−0·5	−0·2	+0·4	+0·4
	Perim . .	−0·5	?	−0·5	−0·2	−0·9	+0·1	−0·6	+0·4	−0·8	−0·3	−0·1	+0·6	−0·3
	Zanzibar . .	+0·2	+0·5	−0·1	−0·3	−0·9	−0·8	−0·9	−0·5	−0·3	+0·1	+2·0	+0·5	0
	Port Victoria (Seychelles).	−1·1	−0·7	+0·2	+0·4	−0·3	−0·2	−0·4	−0·7	−1·1	−1·0	−0·5	−0·5	−0·5
	Mauritius .	+0·4	+0·7	+0·7	+0·7	+0·4	−0·6	+0·2	+0·2	+0·3	−0·6	+0·4	+1·1	+0·3

TABLE II—*Geographical summary of the temperature data of Table II in the monthly weather reviews of 1899.*

Meteorological area.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	
North-West Himalaya	6	−6·0	+0·7	+3·3	−2·8	+2·1	+1·0	+0·2	−0·4	−0·4	+0·7	+0·4	+0·7	0
Sikkim Himalaya and Nepal.	1–2	−3·3	+1·2	+1·2	−0·9	+2·4	−0·2	−0·4	+0·1	+0·6	−0·3	−1·5	−1·9	−0·3
Punjab Plains . .	3	−1·7	+3·1	+4·3	+0·8	+5·7	+1·0	+2·2	+3·3	+3·9	+1·3	+3·5	+4·4	+2·6
Gangetic Plain . .	5	−3·6	+1·2	+2·5	−0·9	+2·3	−2·2	−2·0	+1·6	+1·4	+0·5	+0·3	+1·0	+0·2
Western Rajputana .	3–4	−2·7	+1·8	+1·4	+1·1	+1·2	+0·5	+1·5	+3·2	+2·1	+3·0	+3·6	+4·9	+1·8
Eastern Rajputana and Central India.	1	−2·3	+3·2	+3·8	+1·1	+2·6	−2·1	+0·5	+7·5	+4·5	+4·8	+4·2	+5·3	+2·8
Nerbudda Valley .	1	−3·4	+2·2	+2·2	+0·7	+0·6	+1·1	+1·6	+4·7	+6·1	+7·2	+5·5	+5·2	+2·8
Chota Nagpur . .	1	−3·5	+0·6	+3·3	−0·3	+0·5	+0·9	−1·1	+1·9	+2·1	+1·6	+1·3	+2·0	+0·8
Lower Bengal . .	2	−2·3	+0·8	+1·9	+0·1	+0·5	−0·7	+0·1	+1·7	+1·8	−0·3	−1·4	+1·0	+0·3
Orissa . . .	1	−1·0	+0·7	+0·7	−0·7	−0·4	−1·2	−0·3	+1·7	+1·8	−0·1	−1·5	+0·4	0
Central Provinces South and Berar.	5	−2·3	+0·9	+2·5	−1·8	−0·1	+0·6	+1·0	+3·4	+4·3	+5·8	+4·7	+4·4	+2·0
Konkan . . .	2	−1·7	−0·1	+0·8	−0·7	−0·2	−0·7	+1·5	+1·2	+0·8	+1·7	−0·2	+0·1	+0·2
Deccan, Hyderabad and Mysore.	9	−1·1	+0·4	+0·4	−2·4	−0·6	+0·2	+2·1	+2·4	+1·1	+2·7	+1·1	+0·9	+0·6
East Coast and Carnatic.	3–4	−0·5	+0·3	−0·3	−1·5	−0·3	+0·8	+3·5	+2·6	+0·6	+0·5	−0·4	−0·5	+0·4
Arakan and Pegu .	3–4	−0·4	+0·3	+1·3	+0·1	−0·8	+0·1	+0·7	+1·1	+1·0	+1·1	−1·2	−1·1	+0·2
Bay Islands . .	1–2	+1·9	+0·7	+0·6	−0·9	+0·5	+0·3	+1·6	+1·6	+0·9	+1·5	+0·4	0	+0·8
Extra-Tropical India .	25–26	−3·5	+1·4	+2·6	−0·7	+2·1	−0·1	+0·2	+1·8	+1·7	+1·3	+1·2	+2·0	+0·8
Tropical India . .	25–27	−0·9	+0·4	+0·8	−1·5	−0·4	+0·3	+1·7	+2·2	+1·6	+2·6	+1·1	+1·0	+0·7
Whole India . .	51–53	−2·2	+0·9	+1·6	−1·1	+0·8	+0·1	+0·9	+2·0	+1·6	+2·0	+1·2	+1·5	+0·8

TABLE III(*a*).—*Variations of the mean monthly maximum temperature from the normal in 1899 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands.	+0·8	−1·3	+0·7	−0·3	−3·0	+0·1	+0·5	+1·0	+1·2	+2·3	−1·1	−0·6	0
Burma Inland . . .	0	−1·1	+1·1	+1·4	−3·1	−1·2	−1·1	+0·6	−0·1	−0·5	−2·3	−1·9	−0·7
Assam	−2·3	+0·7	+0·4	−1·4	+1·8	−2·4	−2·7	−0·6	−1·4	−1·4	−1·0	−3·4	−1·1
Bengal and Orissa . .	−3·0	+0·3	+1·8	−1·4	+0·8	−1·5	−0·4	+1·3	+1·6	−0·6	0	+0·2	−0·1
Gangetic Plain and Chota Nagpur.	−3·5	+1·8	+2·9	−2·7	−0·7	−1·5	−3·1	+1·7	+2·5	+2·8	+2·9	+2·6	+0·5
Upper Sub-Himalayas . .	−2·3	+2·4	+3·7	−1·4	+2·5	−1·6	−0·6	+5·3	+6·3	+3·0	+2·9	+3·7	+2·0
Indus Valley and North-West Rajputana.	−0·5	+3·1	+2·2	+1·5	+3·4	+1·3	+1·6	+2·8	+2·5	+1·2	+2·4	+4·0	+2·1
East Rajputana, Central India and Gujarat.	−2·1	+2·9	+3·0	−1·0	−0·5	−1·9	+0·3	+7·7	+6·2	+6·5	+5·6	+5·6	+2·7
Deccan	−0·7	+1·0	+2·4	−3·3	−0·9	+0·4	+2·0	+4·5	+5·8	+7·5	+7·1	+5·6	+2·6
West Coast	−0·9	−0·2	+0·3	−1·1	0	+0·3	+2·0	+2·0	+0·3	+1·3	+0·6	+1·3	+0·5
South India	−0·3	−0·1	+0·3	−3·5	−0·6	+1·3	+4·5	+3·4	+0·5	+1·2	+2·7	+2·2	+1·0

TABLE III(*b*).—*Variations of the mean monthly minimum temperature from the normal in 1899 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands .	−0·7	+0·6	+1·5	+1·7	+0·5	+0·5	+1·4	+1·3	+1·6	+1·2	−0·2	−0·7	+0·7
Burma Inland . . .	−0·1	+0·2	+0·4	+1·6	+0·5	−0·1	+0·5	+1·0	+0·9	+1·6	−0·1	−2·0	+0·4
Assam	−3·0	−0·6	−0·6	−0·9	+1·9	−0·9	−0·2	+0·2	−0·2	−0·4	−1·3	−1·2	−0·6
Bengal and Orissa . .	−2·0	+1·4	+0·7	−0·5	+1·8	−0·3	0	+1·0	+0·7	−0·2	−2·3	−0·2	0
Gangetic Plain and Chota Nagpur.	−2·8	+1·1	+1·3	−0·6	+2·7	−0·8	−0·9	+0·8	−0·1	−1·3	−0·5	+0·9	0
Upper Sub-Himalayas . .	−4·3	+2·2	+2·2	0	+6·3	−0·4	+0·7	+2·5	+1·3	−0·7	+4·2	+3·1	+1·4
Indus Valley and North-West Rajputana.	−5·5	+2·1	+2·0	+0·6	+4·5	+1·1	+1·8	+1·1	+0·1	−1·9	+3·7	+4·4	+1·2
East Rajputana, Central India and Gujarat.	−4·8	+1·6	+1·6	+1·3	+2·4	−0·6	+0·6	+3·0	+2·1	+2·5	+4·4	+5·2	+1·6
Deccan	−3·4	+1·1	+0·4	+0·3	+1·5	+1·0	+1·0	+1·4	+1·3	+0·6	+0·6	+2·5	+0·7
West Coast	−1·6	+0·6	+0·4	−1·0	+0·1	0	+1·5	+0·9	+0·7	+1·5	−0·6	−1·6	+0·1
South India	−0·1	+1·2	−1·1	−0·7	−0·1	+0·7	+1·7	+1·5	+0·3	+1·1	−1·9	−2·2	0

TABLE III(*c*).—*Variations of the mean monthly temperature from the normal in 1899 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands .	+0·1	—0·4	+1·1	+0·7	—1·3	+0·3	+1·0	+1·2	+1·4	+1·7	—0·6	—0·6	+0·4
Burma Inland . . .	—0·1	—0·5	+0·8	+1·5	—1·3	—0·7	—0·3	+0·8	+0·4	+0·6	—1·2	—2·0	—0·2
Assam	—2·7	+0·1	—0·1	—1·2	+1·9	—1·7	—1·5	—0·2	—0·8	—0·9	—1·2	—2·3	—0·9
Bengal and Orissa . .	—2·5	+0·9	+1·3	—1·0	+1·3	—0·9	—0·2	+1·2	+1·2	—0·4	—1·2	0	0
Gangetic Plain and Chota Nagpur.	—3·2	+1·5	+2·1	—1·7	+1·0	—1·1	—2·0	+1·3	+1·2	+0·8	+1·2	+1·8	+0·2
Upper Sub-Himalayas . .	—3·3	+2·3	+3·0	—0·7	+4·4	—1·0	+0·1	+3·9	+3·8	+1·2	+3·6	+3·4	+1·7
Indus Valley and North-West Rajputana.	—3·0	+2·6	+2·1	+1·1	+4·0	+1·2	+1·7	+2·0	+1·3	—0·4	+3·1	+4·2	+1·7
East Rajputana, Central India and Gujarat.	—3·5	+2·3	+2·3	+0·2	+1·0	—1·3	+0·5	+5·4	+4·3	+4·5	+5·0	+5·4	+2·2
Deccan	—2·1	+1·1	+1·4	—1·5	+0·3	+0·7	+1·5	+3·0	+3·6	+4·1	+3·9	+4·1	+1·7
West Coast	—1·3	+0·2	+0·4	—1·1	+0·1	+0·2	+1·8	+1·5	+0·5	+1·4	0	—0·2	+0·3
South India	—0·2	+0·6	—0·4	—2·1	—0·4	+1·0	+3·1	+2·5	+0·4	+1·1	+0·4	0	+0·5

TABLE IV.—*Variations of the mean monthly and annual temperatures from the normal in 1899, in 54 of the 57 meteorological districts or divisions of India.*

PROVINCE.	DIVISION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
BURMA . .	1. Tenasserim . .	+0·4	—1·3	+0·7	—0·1	—0·3	+0·8	+1·6	+1·1	+1·6	+2·0	—0·5	+1·3	+0·6
	2. Lower Burma . .	+0·4	—0·1	+1·3	+0·8	—2·1	—0·1	+0·8	+0·9	+1·2	+1·3	—1·0	—1·5	+0·2
	3. Central do. . .	+0·4	+0·4	+1·3	+3·2	—1·9	+0·3	+0·3	+1·6	+1·4	+2·3	?	—3·6	+0·5
	4. Upper do. . .	—0·1	—0·6	+0·7	+1·5	—1·0	—1·0	—0·4	+0·7	+0·3	+0·2	—1·2	—1·7	—0·2
	5. Arakan . . .	—1·4	+0·6	+1·3	0	—0·8	+0·5	?	?	?	?	?	?	?
BENGAL AND ASSAM .	6. Eastern Bengal . .	—2·7	+0·1	+1·1	—0·7	+0·7	—0·9	—0·3	+1·0	+0·8	—0·5	—1·9	—0·4	—0·3
	7. Assam (Surma) . .	—2·5	+0·5	+0·8	—0·5	+2·7	—1·0	?	+1·0	+0·1	—0·6	—1·1	—2·3	—0·3
	9. Do. (Brahmaputra) .	—2·8	—0·2	—0·6	—1·6	+1·6	—2·1	—1·6	—0·8	—1·3	—1·1	—1·2	—2·4	—1·2
	10. Deltaic Bengal . .	—3·2	+0·4	+1·5	—0·3	+1·1	—1·0	—0·2	+1·5	+1·7	—0·7	—1·6	+0·2	—0·1
	11. Central do. . .	—3·0	+0·8	+1·3	—1·5	+1·9	—0·5	—0·5	+0·9	+1·2	—0·6	—0·9	—0·2	—0·1
	12. North do. . .	—2·9	+2·0	+0·8	—1·0	+3·2	—0·5	0	+0·5	+0·2	—0·1	—0·8	—0·8	+0·1
	13. Bengal Hills . .	—2·1	?	—0·1	—0·1	+2·7	+0·6	—0·3	+0·8	+0·5	+0·2	—1·5	—0·9	0
	14. Orissa . . .	—1·2	+1·1	+1·7	—1·6	—0·1	—1·4	+0·1	+2·0	+1·9	0	—0·8	+1·0	+0·2
	15. Chota Nagpur . .	—2·6	+1·5	+3·0	—2·1	+0·6	+0·3	—0·4	+2·0	+2·1	+1·0	+1·6	+2·6	+0·8
	16. South Bihar . .	—3·4	+1·1	+1·5	—1·6	+1·1	—0·7	—2·8	+0·6	+0·9	+0·8	+1·0	+1·4	0
	17. North do. . .	—3·1	+1·3	+1·0	—1·8	+2·1	—0·3	—1·0	+0·6	+0·7	+0·4	—0·7	—0·4	—0·1

TABLE IV.—*Variations of the mean monthly and annual temperatures from the normal in 1899 in 54 of the 57 meteorological districts or divisions of India*—concld.

Provinces.	Division.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
N.-W. Provinces and Oudh.	18. North-Western Provinces East.	−3·7	+1·6	+1·7	−1·4	+1·1	−3·2	−3·0	+1·1	+0·9	+0·3	+1·8	+2·4	0·
	19. South Oudh . .	−3·3	+2·0	+2·8	−0·8	+2·2	−2·3	−2·2	+1·4	+0·9	+0·7	+2·5	+3·0	+0·6
	21. North-Western Provinces, Central.		+3·0	+4·6	−0·3	+2·4	−2·3	−2·7	+4·8	+3·9	+3·6	+7·6	+5·8	+2·5
	22. Do. do. West	−3·0	+2·8	+2·9	−0·9	+3·4	−3·2	−2·2	+5·3	+4·7	+2·7	+4·1	+3·9	+1·7
	23. Do. do. East Submontane.	−3·4	+1·0	+2·0	−2·8	+0·2	−2·1	−2·8	−0·4	+0·8	+0·5	+0·2	+0·1	−0·6
	24. Do. do. West do.	−3·5	+2·2	+2·6	−1·5	+2·0	−2·0	−1·5	+1·8	+1·6	+1·3	+2·2	+2·3	+0·6
	25. Do. do. Hills .	−3·3	+2·0	+3·5	−3·6	+2·6	+0·1	−0·2	+0·8	+1·4	+1·6	+1·3	+0·9	+0·6
Punjab . .	26. South-East Punjab .	−3·8	+1·8	+3·0	−2·4	+1·9?	−3·6	−1·7	+6·3	+5·2	+1·3	?	+3·1	+1·0
	27. South do. . .			+2·7	−0·6	+4·0	−1·1	+3·0	+6·3	+4·9	−0·2	+4·1	+3·9	+2·7
	28. Central do. . .	−2·7			−0·4	+6·3		+3·0	+5·1	+5·0	+1·0	+5·4	+5·1	+3·1
	29. Punjab Submontane .	−4·1	+2·9	+3·4	−0·2	+5·2	−0·2	+0·8	+4·6	+5·2	+1·1	+3·4	+3·3	+2·1
	30. Do. Hills .	−3·2	−0·8	+1·5	−2·8	+3·0	−0·1	−0·6	−0·4	−0·4	+0·3	+0·4	−0·5	−0·3
	31. North Punjab . .	−2·3	+2·0	+2·7	+0·5	+6·2	+2·0	+1·8	+2·0	+3·1	+0·9	+4·0	+4·1	+2·3
	32. West do. . .	−3·4	+2·5	+2·7	+1·4	+6·2	+1·2	+2·5	+1·8	+1·0	−0·9	+2·6	+3·9	+1·8
Bombay and Malabar Coast Districts (Madras).	33. Malabar . . .	−0·4	+0·1	−0·1	−1·9	−0·2	+0·3	+1·9	+1·4	+0·3	+1·3	+0·4	−0·9	+0·2
	34. Madras South-Central	−0·6	+0·4	−0·9	−3·7	−0·2	+1·2	+2·8	+3·1	+0·8	+1·3	+0·3	−0·6	+0·3
	35. Coorg . . .	+0·5	+0·4	+0·7	−1·6	−1·0	+0·1	+1·3	+0·4	−0·1	+2·0	+0·4	+0·6	+0·3
	36. Mysore . . .	0	+0·9	+0·3	−2·4	−1·8	+0·3	+2·7	+2·3	+0·3	+1·5	−0·5	−0·3	+0·3
	37. Konkan . . .	−2·1	+0·3	+0·7	−0·2	+0·3	0	+1·7	+1·6	+0·8	+1·6	−0·5	+0·6	+0·4
	38. Bombay Deccan .	−1·8	−0·1	+0·6	−3·0	−0·7	+0·2	+1·5	+2·3	+2·1	+4·2	+2·4	+2·1	+0·8
	40. Khandesh . . .	−3·8	+0·3	+1·0	−0·8	−0·2	−0·8	+2·2	+3·6	+4·6	+7·3	+5·8	+5·0	+2·0
Central Provinces and Berar.	41. Berar . .	−2·4	+1·4	+1·6	−1·3	+0·3	+1·2	+2·5	+4·3	+6·0	+6·4	+5·2	+6·1	+2·6
	42. Central Provinces West	−3·0	+1·4	+1·6	−0·9	+0·2	+1·1	+1·2	+3·8	+5·5	+4·7	+4·8	+5·4	+2·2
	43. Do. Central	−2·7	+1·7	+1·7	−1·0	+0·6	+0·9	+0·3	+2·9	+2·8	+3·4	+4·6	+4·5	+1·6
	44. Do. East .	−1·1	+0·9	+2·0	−2·3	+0·6	+0·5	+1·6	+1·6	+3·2	+1·1	+1·7	+4·4	+1·2
Bombay (North).	45. Gujarat . . .	−2·1	+1·7		−0·2	−0·1	−1·5	+1·4	+2·7	+2·3	+5·6	+5·2	+5·9	+1·9
	46. Kathiawar and Cutch.	−4·4	+1·2	+0·2	+0·6	−0·9	−0·2	+1·8	+2·7	+0·9	+2·6	+3·4	+5·7	+1·1
	47. Sind . . .	−3·1	+2·4	+1·1	+1·4	+1·9	+0·9	+0·4	+1·1	+0·4	−0·3	+3·2	+4·7	+1·2
	48. Baluchistan Hills .	−2·5	+3·2	+2·6	−0·4	+2·2	−0·3	−1·5	−0·7	−1·8	−0·8	+4·3	+4·3	+0·7
Rajputana and Central India.	49. Central India East .	−4·0	+1·7	+1·9	−0·1	+0·7	−1·7	−0·9	+4·3	+3·8	+4·4	+4·8	+4·7	+1·6
	50. Rajputana East, Central India West.	−3·1	+2·9	+3·1	+1·0	+2·4	−0·3	+2·1	+7·5	+5·6	+4·8	+5·3	+5·5	+3·1
	51. West Rajputana .	−2·5	+4·0	+3·3	+0·5	+4·8	+2·4	+3·5	+6·1	+4·3	+0·5	?	+4·3	+2·8
Madras .	52. East Coast North .	−0·2	+0·6	−0·7	−0·6	−0·3	0	+5·1	+2·2	+2·7	+1·2	−0·6	0	+0·8
	53. Hyderabad South .	+0·4	+1·2	+1·0	−2·2	−0·1	+2·2	+4·4	+2·7	+3·0	+4·3	+3·5	+2·7	+1·9
	54. Madras Central . .	+0·1	+1·3	−0·3	−2·7	−0·9	+1·4	+3·2	+2·7	+0·5	+2·6	+1·4	+0·9	+0·9
	55. East Coast Central .	−0·6	+0·4	−0·5	−0·1	+1·1	+1·4	+4·9	+1·6	+0·3	+0·8	0	−0·3	+0·8
	56. East Coast South .	+0·2	+0·4	−0·3	−1·5	−0·1	+1·8	+2·9	+2·5	+0·9	−0·2	+0·1	−0·4	+0·5
	57. Madras South . .	−1·3	−0·6	−1·1	−4·2	−0·6	−0·4	+0·8	+1·5	+0·1	+0·5	+0·3	−0·2	−0·4

In the discussion of the meteorology of India during the year 1899, the year is divided into four seasons according to the following arrangement :—

1st.—The cold weather period, including the months of January and February.

2nd.—The hot weather period, including the months of March, April and May.

3rd.—The period of the south-west monsoon rains proper, including the months of June, July, August and September.

4th.—The period of the retreating south-west monsoon, including the months of October, November and December.

The following give a resum of the chief features of the temperature conditions during the year :—

1.—The cold weather period.—A cold weather storm of moderate intensity in the last week of December 1898 gave moderate to heavy snow in the Upper India hills. This was followed by a well marked cool wave in the beginning of January when temperature was largely below the normal over the whole of Northern and Central India. January was unusually free from cold weather storms, and the air was abnormally dry and skies free from cloud. Two feeble disturbances affected Central India, North-Eastern India and the North Deccan during the first fortnight of the month and gave some local rain. Temperature was remarkably low during this period over the whole of Northern and Central India and the North Deccan. Two feeble low pressure waves passed from the Persian area across Northern India. They gave some cloud but no rain in the plains. Each was followed by a cool wave of moderate intensity and hence temperature was largely below the normal during the third and fourth weeks of the month. The most remarkable feature of this period was the remarkably low night temperature in South-West Bengal.

Temperature increased rapidly on the 25th and following days and was at the end of January in considerable excess in North-Western India and in slight to moderate defect in North-Eastern India, the deficiency being most marked in Bengal.

February was more disturbed than usual. A series of five depressions of the cold weather type advanced in succession across Northern India. The disturbances were, however, very feeble and gave little rain in the plains and only light snow in the hills and hence affected temperature very slightly. Temperature hence increased more rapidly than usual during the month and was in steady excess during the greater part of the month. An important feature of the month was increased dryness of the air, and hence greater radiation by night. The day temperature was much more largely in excess than the night temperature.

The snowfall of the period was much less than usual in Baluchistan, Afghanistan and the Western Himalayas. The rainfall in the plains of Northern and Central India was scanty in North-Western India, but was slightly above the normal of the period in the districts which received thunder showers from the two abnormal disturbances in Central India during the first fortnight of January.

The temperature conditions of the period were directly related to the chief abnormal features of the period which were.—

(1) Fewer cold weather storms than usual, more especially in January. The storms were also of feebler intensity than usual.

(2) The warm and cool waves accompanying the storms were feeble and exercised little influence on the mean temperature conditions of the period.

The following gives a summary of the chief features of these conditions :—

(1) The mean maximum or day temperature was generally in defect in January and in excess in February. The deficiency was considerable in January in North-Eastern India and it ranged between 3° and 5° in Central and North Bengal and Bihar. The excess in February was small in amount over the whole area except Baluchistan, the South Punjab, Sind, Rajputana, Cutch and the western half of the North-Western Provinces and of Central India where it ranged on the mean of the month between 3°, and 5°. The following gives comparative data for the various provinces :—

Area.	Variation of mean maximum temperature from normal, in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Burma	+0·4	−1·2	−0·4
Assam	−2·3	+0·7	−0·8
Bengal	−3·3	0	−1·6
Orissa	−1·3	+0·9	−0·2
Bihar	−4·0	+0·9	−1·5
Chota Nagpur	−2·8	+2·1	−0·3
North Western Provinces and Oudh	−2·9	+2·7	−0·1
Punjab	−1·4	+1·9	+0·2
Baluchistan (Quetta)	+1·3	+4·3	+2·8
Sind	−0·4	+3·6	+1·6
Rajputana	−1·1	+4·1	+1·5
Gujarat	−2·6	+1·9	−0·3

Area.	Variation of mean maximum temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Central India	−3·2	+2·0	−0·6
Central Provinces	−1·1	+1·3	+0·1
Berar	−0·1	+0·9	+0·4
West Coast	−0·9	−0·2	−0·5
Bombay Deccan	−0·5	+0·1	−0·2
Mysore	+0·6	+0·5	+0·5
Madras Coast	+0·2	−0·2	0
Madras Deccan	+0·7	+0·7	+0·7
South India	−1·6	−0·7	−1·1

The variations of the maximum temperature of the period were generally small in amount in consequence of the opposite variation in the two months. The only important variations were an excess of nearly 3° in Baluchistan and of 1½° in Sind and Rajputana and a deficiency of 1½° in Bengal and Bihar.

(2) The mean minimum or night temperature was in general defect in January and in general excess in February. The mean variations of the period were small to moderate in amount. The variations were most pronounced in Upper India where the night temperature was in considerable to large defect in January and in moderate to considerable excess in February. They averaged 2° in amount in five areas or divisions, *viz.*, Assam, the Bombay Deccan, Sind, Gujarat and Baluchistan. The following gives comparative data for the various provinces:—

Area.	Variation of mean minimum temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Burma	−0·4	+0·5	0
Assam	−3·0	−0·6	−1·8
Bengal	−2·2	+1·3	−0·4
Orissa	−1·0	+1·2	+0·1
Bihar	−2·5	+1·5	−0·5
Chota Nagpur	−2·3	+0·9	−0·7
North-Western Provinces and Oudh	−3·9	+1·7	−1·1
Punjab	−4·9	+2·8	−1·0
Baluchistan (Quetta)	−6·3	+2·1	−2·4

Area.	Variation of mean minimum temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Sind	−5·8	+1·1	−2·3
Rajputana	−4·8	+2·0	−1·4
Gujarat	−4·6	+0·8	−1·9
Central India	−4·7	+1·4	−1·6
Central Provinces	−3·7	+1·5	−1·1
Berar	−4·0	+1·8	−1·1
West Coast	−1·6	+0·6	−0·5
Bombay Deccan	−4·1	0	−2·0
Mysore	−0·6	+2·3	+0·3
Madras Coast	0	+1·2	+0·6
Madras Deccan	−0·6	+1·8	+0·6
South India	+0·1	+0·8	+0·4

(3) The mean temperature in January was below the normal over the whole area, except Central and Lower Burma and above it in February, except in parts of Burma. It hence varied slightly on the mean of the period from the normal and was in slight defect generally in Northern and Central India and normal or in slight excess in Burma and the Peninsula. The variations were less than 1° except in Assam, Bengal, Bihar, Gujarat, Central India and the Bombay Deccan, where the mean temperature of the period ranged between 1° and 1·3° in defect. The following gives comparative data for the various provinces:—

Area.	Variation of mean daily temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Burma	0	−0·4	−0·2
Assam	−2·7	+0·1	−1·3
Bengal	−2·8	+0·7	−1·0
Orissa	−1·2	+1·1	0
Bihar	−3·3	+1·2	−1·0
Chota Nagpur	−2·6	+1·5	−0·5
North-Western Provinces and Oudh	−3·4	+2·2	−0·6

Area.	Variation of mean daily temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Punjab	−3·2	+2·4	−0·4
Baluchistan (Quetta)	−2·5	+3·2	+0·3
Sind	−3·1	+2·4	−0·3
Rajputana	−3·0	+3·1	0
Gujarat	−3·6	+1·4	−1·1
Central India	−4·0	+1·7	−1·1
Central Provinces	−2·4	+1·4	−0·5
Berar	−2·1	+1·4	−0·3
West Coast	−1·3	+0·2	−0·5
Bombay Deccan	−2·3	0	−1·1
Mysore	0	+0·9	+0·4
Madras Coast	+0·1	+0·5	+0·3
Madras Deccan	+0·1	+1·3	+0·7
South India	−0·8	+0·1	−0·3

The following gives a brief statement of the cool waves of the period :—

(1) *Cool wave of the 1st to the 7th of January.*—This cool wave followed the cold weather storm of the last week of December which gave heavy snow in the Upper India mountain districts. The reduction of temperature was greatest in Baluchistan and Upper India on the 1st and 3rd. The cool wave advanced into the Central Provinces on the 4th, Bihar and Bengal on the 5th and 6th, its effect diminishing rapidly in its eastward extension.

The following gives variation data on each day from the 3rd to the 7th illustrating the progress of the warm and cold waves of this period :—

Station.	Variation from normal of mean temperature preceding 8 A.M. of date.				Total range of variation during period.
	Greatest excess.	Date.	Greatest defect.	Date.	
	°		°		°
Quetta	+ 6·2	28th December 1898.	−15·1	3rd January 1899	21·3
Hyderabad	+ 10·2	29th December 1898.	−11·9	3rd ,, ,,	22·1
Ajmer	+ 8·9	30th December 1898.	− 8·2	7th ,, ,,	17·1
Allahabad	+ 8·1	31st December 1898.	− 7·7	5th ,, ,,	15·8
Saugor Island	+ 9·6	1st January 1899.	− 8·1	10th ,, ,,	17·7

A feature of this cold wave was the great reduction of temperature at the hill stations accompanying the low elevation of the snow line. The following gives the greatest reduction below the normal at five stations :—

Station.	Date.	Variation from normal of		
		Maximum temperature.	Minimum temperature.	Mean temperature.
		°	°	°
Srinagar	6th January	− 8·0	− 4·6	− 6·8
Murree	7th ,,	−16·0	−12·5	−14·3
Simla	7th ,,	−21·0	−15·8	−18·4
Ranikhet	8th ,,	−18·9	−14·3	−16·6
Chakrata	7th ,,	−19·8	−16·3	−18·1

(2) *Cool wave of the 14th to the 15th January.*—Temperature continued much lower than usual over Northern and Central India during the interval between the 8th to the 13th, due chiefly to the remarkable dryness of the air favouring terrestrial radiation. A feeble disturbance which originated in Persia on the 10th and 11th passed through Baluchistan into Upper India on the 12th and 13th. The warm wave in front was unusually feeble, and increased temperature temporarily from 2° to 4°. The cool wave in its rear was more marked reducing temperature from 15° to 6°. The following variation data for the period 15th to the 18th, show the progress of the cool wave across Northern India :—

Province or Area.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of			
	15th January.	16th January.	17th January.	18th January.
	°	°	°	°
Baluchistan (Quetta)	−15·5	−1·1	−3·3	−5·3
Punjab	− 5·3	−6·6	−7·6	−5·1
Sind	− 6·4	−6·3	−7·2	−5·5
Rajputana	− 2·5	−4·6	−6·3	−5·8
North-Western Provinces and Oudh.	− 0·6	−3·9	−7·2	−7·5
Central India	− 1·6	−3·9	−7·8	−7·1
Bihar	− 1·1	−1·7	−5·8	−6·6
Chota Nagpur	− 1·7	−1·8	−4·9	−6·1
Bengal	− 2·9	−2·6	−5·4	−6·6

The preceding data show that the wave of greatest reduction of temperature below the normal was in Baluchistan on the 14th and 15th, in the South Punjab on the 16th, in the South Punjab, Rajputana, Bundelkhand

and Baghelkhand on the 17th, and in the eastern districts of the North-Western Provinces and Bengal on the 18th.

The reduction of temperature during the progress of the cool wave was very strongly marked in the night temperature and the lowest minimum temperatures of the month were generally reported during this period in the plains of Northern India. The following gives some of the more noteworthy minimum temperatures registered during this period, their variations from the normal and the lowest hitherto recorded at eight typical stations in January:—

Station.	Lowest minimum temperature recorded in January.	Variation of actual from normal, January.	Date on which recorded.	Lowest minimum temperature recorded in January previous to 1899.	Year in which recorded.
	°	°		°	
Peshin . .	4·4	?	15th	9·0	1895
Quetta . .	10·8	−18·7	15th	9·3	1897
Peshawar .	28·9	−10·7	18th	28·8	1878 and 1880.
Ajmer . .	33·5	−13·6	18th	31·0	1867
Sutna . .	36·1	−12·4	17th	34·2	1878
Allahabad .	36·4	−12·0	18th	36·0	1878
Patna . .	41·2	− 9·2	18th	36·4	1878
Calcutta . .	44·2	−11·3	20th	45·5	1878

The lowest night temperatures of the year were generally recorded in Northern India during the advance of this cool wave. They were not so low as have been previously recorded in the Punjab, Rajputana, Central India and the North-Western Provinces, but were lower at many stations in Bengal. The following gives examples of the abnormally low minimum temperature in that area:—

Station.	Lowest minimum temperature recorded in January.	Variation of actual from normal January.	Date on which recorded.	Lowest minimum temperature recorded in January previous to 1899.	Year in which recorded.
	°	°			
Saugor Island .	46·0	−13·5	22nd January.	46·8	1878
Calcutta . .	44·2	−11·3	20th January.	45·5	1878
Mymensingh .	39·7	−12·9	17th January.	41·1	1887
Jessore . .	42·1	−11·0	18th January.	41·5	1882
Berhampore .	43·1	− 9·9	18th January.	41·0	1874

The night temperature was also remarkably low in Berar, the Central Provinces, Rajputana, Central India and Khandesh during the period from the 9th to the 18th. The following gives the lowest minimum temperatures recorded in that area and also the lowest at the same stations in previous years for comparison:—

Station.	Lowest minimum temperature recorded in January.	Variation of actual from normal, January.	Date on which recorded.	Lowest minimum temperature recorded in January previous to 1899.	Year in which recorded.
	°	°		°	
Khandwa . .	36·2	−15·9	9th January.	35·7	1878
Jubbulpore .	34·9	−12·6	9th ,,	34·4	1890 and 1898.
Malegaon . .	37·2	−15·3	9th ,,	36·6	1883
Hoshangabad .	40·2	−12·7	11th ,,	40·0	1875
Hyderabad (Sind).	37 0	−13·7	3rd ,,	37·5	1897
Nowgong .	35·5	−12·4	17th & 18th	34·0	1878
Jaipur . .	36·2	−10·4	9th ,,	35·0	1888
Ajmer . .	33·5	−13·6	18th ,,	31·0	1867
Akola . .	39·7	−13·7	9th ,,	39·2	1880
Sambhar . .	33·0	−11·8	9th ,,	34·0	1897

(3) *Warm and cool waves of the 21st to the 28th February*:—Several cold weather depressions and disturbances affected North-Western India during the month. They were unusually feeble and the precipitation accompanying them was generally small in amount. They hence exercised little influence on the temperature which was above the normal during nearly the whole of the month, with one exception, *viz.*, the period of the depression which originated in Persia and passed across Northern India between the 23rd and 27th.

The advance of the waves is indicated by the following data:—

Date.	Warm wave.		Cool wave.	
	Station.	Variation on normal of mean temperature of 24 hours preceding 8 A.M. of date.	Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of date.
		°		°
21st February .	Baghdad .	+ 6·2		
,, ,, .	Teheran .	+12·0		
22nd ,, .	Bushire .	+ 8·2	Baghdad .	−4·9
,, ,, .	Teheran .	+ 6·2		
,, ,, .	Ispahan .	+ 6·5		
23rd ,, .	Jask . .	+ 5·4	Baghdad .	−8·7
,, ,, .	Quetta .	+14·5	Bushire .	−1·7
,, ,, .	Hyderabad .	+ 7 7	Teheran .	−7 0

Date.	Warm wave.		Cool wave.	
	Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of date.	Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of date.
24th February	Sambhar	+11·6	Bushire	−7·7
,, ,,	Bikaner	+11·1	Teheran	−2·9
,, ,,	,,	,,	Ispahan	−3·0
25th ,,	Jhansi	+ 7·2	Quetta	−6·1
,, ,,	Sambhar	+ 6·2		
26th ,,	Balasore	+ 8·9	Quetta	−4·1
,, ,,	Burdwan	+ 7·3	Kurrachee	−3·9
27th ,,	Chaibassa	+ 6·5	Hyderabad (Sind).	−5·9
,, ,,	Balasore	+ 5·6		
28th ,,	Calcutta	+ 3·3	Neemuch	−6·7
,, ,,	Akyab	+ 3·0	Malegaon	−6·1

The increase of temperature accompanying the advance of the warm wave in front of the storm was greatest on the 20th and 21st in Asiatic Turkey and Persia, on the 23rd in Baluchistan, on the 24th in Rajputana, on the 25th in Central India, on the 26th and 27th in North-Eastern India and on the 28th in Burma. The reduction of temperature accompanying the advance of the cool wave was greatest in Asiatic Turkey on the 22nd and 23rd, in Persia on the 24th, in Baluchistan on the 25th and 26th, in Sind on the 27th and in Central India on the 28th. The total variation of the mean temperature due to these two waves was 21·1° at Quetta and was nearly as large as in Persia.

II. The hot weather period.—The weather was more disturbed than usual in the first three weeks of March. Four depressions, of which two advanced from Persia and one from Baluchistan affected the weather in North-Western India. They were, however, similar in character to the February depressions, giving little precipitation, except in Baluchistan and the hills. The rainfall was more favouable in Baluchistan than it had hitherto been. The last of the series of depressions was followed by a cool wave of moderate intensity. The chief feature of the month was the abnormal dryness of the air over nearly the whole of the interior of Northern and Central India. Strong local sea winds set in on the Bengal Coast on the 24th and 25th and increased very considerably on the 27th, 28th and 29th. These winds gave series of thunderstorms of unusual intensity and much rain in Cachar, Sylhet and the Assam hills. The most important feature of the temperature of the month was the excessive temperature which prevailed in North-Western India from the 23rd to the 28th or 29th. The mean temperature was from 10° to 13° above the normal at several stations. The following table gives the variations of temperature from the normal for the two stations at which the excess was greatest on each day of the period from the 22nd to the 28th:—

Date.	Station.	Variation from normal of		
		Maximum temperature.	Minimum temperature.	Mean temperature.
		°	°	°
22nd March	Quetta	+10·5	+ 4·3	+ 7·4
23rd ,,	Quetta	+10·9	+ 5·9	+ 8·4
,, ,,	Jacobabad	+ 8·8	+ 7·7	+ 8·3
24th ,,	Montgomery	+14·4	+ 6·8 ?	+10·6 ?
,, ,,	Bikaner	+ 8·7	+10·2	+ 9·5
25th ,,	Lahore	+ 9·1	+15·1	+12·1
,, ,,	Rawalpindi	+12·3	+11·6	+12·0
26th ,,	Jaipur	+12·7	+11·4	+12·1
,, ,,	Bikaner	+10·8	+10·6	+10·7
27th ,,	Lahore	+ 7·7	+13·7	+10·7
,, ,,	Sialkot	+ 8·0	+ 9·7	+ 8·9
28th ,,	Rawalpindi	+10·9	+12·8	+11·9
,, ,,	Sialkot	+10·9	+10·2	+10·6

April was more disturbed than usual over the whole of India. A succession of depressions formed in Sind and passed eastwards across Upper India. Each depression during its advance gave series of duststorms in the plains and thunderstorms in the lower ranges and snowstorms in the higher ranges of the Kashmir and Punjab Himalayas.

The most abnormal feature of the month was an unusually prolonged and excessive burst of rain (accompanying thunderstorms) between the 10th and 24th in the Peninsula and North-Eastern India. The rainfall of the month was hence in excess over the greater part of India and the excess was abnormally large in the southern half of the Peninsula.

The weather from the 1st to the 9th was unusually hot and dry, and in fact the conditions were similar to those which prevailed in March.

Bengal and Assam received daily rain from the 9th to the 15th. This rainfall, as is usual in the hot weather, reduced temperature very largely below the normal. The

following gives temperature variation data of North-Eastern India for the period from the 10th to the 18th :—

Division or Area.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of								
	10th April.	11th April.	12th April.	13th April.	14th April.	15th April.	16th April.	17th April.	18th April.
	°	°	°	°	°	°	°	°	°
Assam . .	−5·6	−9·5	−7·9	−7·0	−2·2	−4·1	−1·8	−1·3	−0·7
Bengal, North .	−4·7	−9·1	−9·0	−9·5	−6·0	−10·8	−5·5	−1·7	−1·5
Bengal, East .	−4·7	−8·9	−5·7	−6·7	−4·4	−2·7	−1·0	+0·6	−0·5
Bengal, Deltaic .	−4·0	−7·6	−5·5	−4·0	−5·8	−5·2	−2·1	+0·4	+1·4
Bengal, Central .	−4·8	−12·2	−10·7	−7·5	−7·4	−10·0	−5·2	−1·4	−1·6
Bihar . .	−2·7	−13·5	−9·2	−5·5	−8·6	−9·5	−6·0	−1·9	−1·8
Chota Nagpur .	−2·1	−18·1	−5·7	−4·0	−8·9	−10·6	−5·9	−3·5	−3·7
Orissa . .	−5·3	−9·6	−5·1	−2·8	−6·9	−6·0	−4·8	−1·6	−1·1

The rainfall in the Peninsula commenced in Southern India on the 10th and extended northwards into the Deccan and Konkan on the 15th and to Berar and the Central Provinces on the 17th. The rainfall reduced temperature largely below the normal in the Peninsula, as is shown by the following comparative data :—

Division or Area.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of								
	10th April.	11th April.	12th April.	13th April.	14th April.	15th April.	16th April.	17th April.	18th April.
	°	°	°	°	°	°	°	°	°
Central Provinces	+0·7	−2·5	−0·1	+0·6	−0·9	−2·1	+0·2	+0·1	+1·8
Berar . .	+3·8	+2·2	+3·2	+2·9	+0·5	+1·1	−0·3	0	+0·8
West Coast .	−0·1	−1·0	−1·4	−1·0	−0·6	−1·7	−2·4	−0·7	−0·3
Bombay Deccan	−0·4	−0·9	−0·5	−0·4	−1·3	+0·3	−0·7	−1·9	−2·6
Mysore . .	−0·4	+0·4	−2·2	−3·2	−1·7	−2·9	−6·4	−8·0	−3·6
Madras Coast .	+0·8	+1·4	−0·9	−0·9	−1·1	−2·5	−2·8	−4·2	−3·5
Madras Deccan	+0·6	−0·7	−1·6	−1·8	−1·5	−4·6	−6·9	−10·5	−8·1
South India .	−2·6	−4·4	−6·4	−6·8	−5·0	−5·5	−10·8	−9·6	−6·4

The reduction of temperature was, as is usual during periods of rainfall in the hot weather, chiefly exhibited in the day temperature.

A depression which formed in Sind on the 14th and 15th gave heavy precipitation in some parts of Baluchistan, Afghanistan and the Western Himalayas. This was followed by a large temporary reduction of temperature in North-Western India.

Showery weather continued in North-Eastern India and the Peninsula until the 24th. Berar received series of thundershowers on the 22nd and 23rd, which reduced temperature to a remarkable extent.

The following gives data in illustration :—

Date.	Station.	Variation from normal of		
		Maximum temperature.	Minimum temperature.	Mean temperature.
		°	°	°
22nd . .	Amraoti . . .	−27·7	− 8·4	−18·1
,, . .	Akola . . .	−29·8	− 9·0	−19·4
,, . .	Buldana . . .	−23·1	−15·2	−19·2
,, . .	Chikalda . . .	−12·1	−15·2	−13·7
23rd . .	Amraoti . . .	−21·4	− 9·1	−15·3
,, . .	Akola . . .	−21·4	− 8·1	−14·8
,, . .	Buldana . . .	−19·2	− 9·3	−14·3
,, . .	Chikalda . . .	−16·3	− 9·4	−12·9

The disturbed conditions passed away on the 24th and 25th and fine weather with rapidly increasing temperature prevailed during the remainder of the month.

May was less disturbed than usual and temperature was hence steadily in excess during the month in North-Western India. The advent of the monsoon was delayed in the southern half of the Peninsula and the rainfall of the month was hence considerably below the normal in that area. Temperature was hence steadily above the normal in the Peninsula. A small cyclonic storm advanced into Burma in the first week of the month and was followed by the prevalence of humid winds which gave excessive rain. Bengal and Assam also received frequent rain from local storms. Temperature was hence below the normal in these areas during the greater part of the month, this feature being very marked in Burma.

The following gives a summary of the more important temperature conditions of the period.

(1) Temperature was above the normal during the period in North-Western India and normal in Central India, as is shown by the following data :—

Area.	Variation of mean maximum temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Baluchistan (Quetta) . . .	+2·5	+1·3	2·9	+2·2
Punjab	+2·8	−0·3	+3·2	+2·1
Sind	+1·4	+1·7	+1·4	+1·5
North-Western Provinces and Oudh.	+3·5	−1·9	+0·1	+0·6
Rajputana	+3·7	+0·4	+1·2	+1·8
Central India	+2·5	−1·7	−0·9	0

Area.	Variation of mean minimum temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Baluchistan (Quetta)	+2·7	−2·0	+1·5	+0·7
Punjab	+2·9	+0·3	+6·7	+3·3
Sind	+0·8	+1·1	+2·3	+1·4
North-Western Provinces and Oudh.	+1·7	−0·5	+3·5	+1·6
Rajputana	+2·4	+1·3	+4·2	+2·6
Central India	+1·2	+0·6	+1·4	+1·4

Area.	Variation of mean temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Baluchistan (Quetta)	+2·6	−0·4	+2·2	+1·5
Punjab	+2·9	0	+5·3	+2·7
Sind	+1·1	+1·4	+1·9	+1·5
North-Western Provinces and Oudh.	+2·6	−1·2	+1·8	+1·1
Rajputana	+3·1	+0·9	+2·7	+2·2
Central India	+1·9	−0·1	+0·3	+0·7

The preceding data show that the excess of temperature was most marked in May. It was slightly greater in amount in the night than in the day temperature.

The following gives data for the area in which the excess was greatest:—

Station.	Variation from normal of mean temperature in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Rawalpindi	+3·3	+1·0	+7·4	+3·9
Lahore	?	−0·4	+6·3	?
Montgomery	+3·3	?	?	?
Mooltan	+3·5	+1·9	+6·6	+4·0

(2) Temperature was slightly in excess on the mean of the period in North-Eastern India and Burma. It was above the normal in two months, *viz.*, March and May in North-Eastern India and in March and April in Burma. Rainfall reduced temperature considerably below the normal in Bengal in April and in Burma in May. The following tables give data in illustration:—

Area.	Variation of mean maximum temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Bihar	+1·0	−3·1	+0·3	−0·6
Chota Nagpur	+4·5	−3·3	−1·3	0
Orissa	+3·2	−2·2	−0·3	+0·2
Bengal	+1·5	−1·2	+4·2	+0·5
Assam	+0·4	−1·4	+1·8	+0·3
Lower Burma	+0·7	−0·1	−1·6	−0·3
Upper ,,	+1·2	+1·4	−2·4	+0·1

Area.	Variation of mean minimum temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Bihar	+1·4	−0·2	+2·8	+1·3
Chota Nagpur	+1·4	−0·8	+2·4	+1·0
Orissa	+0·2	−1·2	+0·3	−0·2
Bengal	+0·8	−0·3	+2·1	+0·9
Assam	−0·6	−0·9	+1·9	+0·1
Lower Burma	+1·8	+1·7	+1·0	+1·2
Upper ,,	+0·2	+1·6	+0·5	+0·8

Area.	Variation of mean temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Bihar	+1·2	−1·7	+1·6	+0·4
Chota Nagpur	+3·0	−2·1	+0·6	+0·5
Orissa	+1·7	−1·7	0	*
Bengal	+1·2	−0·8	+1·7	+0·6
Assam	−0·1	−1·2	+1·9	+0·2
Lower Burma	+1·3	+0·8	−0·3	+0·6
Upper ,,	+0·7	+1·5	−1·0	+0·4

(3) The variations of the monthly mean temperature differed little from the normal in the Peninsula in March and May. There was a moderate to considerable deficiency

in April due to abnormal rain. The following tables give data showing the variation of the maximum, minimum and mean temperature from the normal:—

Area.	Variation of maximum temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Berar	+3·6	−3·3	−0·3	0
Central Provinces	+2·7	−3·1	−1·0	−0·5
Bombay Deccan	+1·6	−3·9	−1·2	−1·2
West Coast	+0·3	−1·1	0	−0·3
Madras Deccan	+1·0	−4·2	−1·1	−1·4
Madras Coast	+0·2	−0·7	+1·3	+0·3
South India	0	−6·3	−1·1	−2·5

Area.	Variation of minimum temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Berar	+1·4	+0·8	+0·9	+1·0
Central Provinces	+0·8	+0·6	+2·0	+1·1
Bombay Deccan	−0·2	−1·0	+0·1	−0·4
West Coast	+0·4	−1·0	0	−0·2
Madras Deccan	−1·0	−0·9	−0·3	−0·7
Madras Coast	−0·9	−0·1	+0·2	−0·3
South India	−1·8	−1·2	+0·3	−0·9

Area.	Variation of mean temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Berar	+2·5	−1·3	+0·3	+0·5
Central Provinces	+1·8	−1·3	+0·5	+0·3
Bombay Deccan	+0·7	−2·5	−0·6	−0·8
West Coast	+0·4	−1·1	0	−0·2
Madras Deccan	0	−2·6	−0·7	−1·1
Madras Coast	−0·4	−0·4	+0·8	0
South India	−0·9	−3·8	−0·4	−1·7

The following gives a brief account of the hottest periods of May and the first week of June preceding the advent of the monsoon rains.

The period 1st to the 9th May was characterized by a general excess of temperature over nearly the whole of Northern and Central India. The chief feature of this period was the great excess of temperature in Bengal and Bihar on the 4th, 5th, 6th, 7th and 8th. The following gives data in illustration :—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of								
	1st May.	2nd May.	3rd May.	4th May.	5th May.	6th May.	7th May.	8th May.	9th May.
	°	°	°	°	°	°	°	°	°
Assam	+4·7	+3·2	+5·3	+6·9	+6·5	+2·5	+4·6	+4·4	+3·3
Bengal	+3·8	+4·7	+5·2	+7·4	+8·2	+7·9	+8·5	+9·1	+8·4
Orissa	−2·3	+1·1	+1·4	+4·0	+4·9	+5·4	+5·1	+4·3	+4·9
Bihar	+2·8	+3·8	+4·2	+5·4	+8·4	+8·4	+8·8	+9·0	+8·4
Chota Nagpur	+0·1	+2·3	+1·9	+4·1	+5·8	+5·2	+6·7	+7·2	+7·2

During the next week temperature fell in Burma and North Eastern India due to rainfall, whilst it increased in Upper India, where it was in very large excess from the 10th to the 13th. The following gives variation data for the stations at which the excess was greatest during this period :—

Date.	Station.	Variation from normal of		
		Maximum temperature of 24 hours preceding 8 A.M. of date.	Minimum temperature of 24 hours preceding 8 A.M. of date.	Mean temperature of 24 hours preceding 8 A.M. of date.
		°	°	°
10th May	Dera Ismail Khan	+12·6	+15·1	+13·9
	Sialkot	+10·0	+14·7	+12·4
	Rawalpindi	+15·5	+ 5·4	+10·5
	Mooltan	+9·7	+11·0	+10·4
11th ,,	Sialkot	+12·7	+14·9	+13·8
	Lahore	+11·1	+17·1	+14·1
	Ludhiana	+11·1	+13·4	+12·1
	Roorkee	+10·7	+13·8	+12·3
12th ,,	Sialkot	+12·1	+14·6	+13·4
	Lahore	+ 8·2	+16·8	+12·5
	Dera Ismail Khan	+12·2	+11·5	+11·9
	Montgomery	+ 5·7	+17·0	+11·4
13th ,,	Sirsa	+10·8	+15·8	+13·3
	Mooltan	+11·8	+11·8	+11·8
	Dera Ismail Khan	+ 9·7	+12·3	+11·0

The maximum temperatures of the month were generally recorded in the North-Western Provinces and South Punjab on the 11th.

The reduction of temperature below the normal due to thunder showers and dust storms which commenced in Bengal on the 11th extended over the whole of India except the Punjab, Sind, Rajputana and the West Coast during the next few days and was most marked on the 20th.

Temperature increased from the 21st over nearly the whole of India and more especially in North-Western India and was excessive in that area on the 27th and 28th, on which dates the highest day temperatures of the month were generally recorded in Sind and the Punjab. The following gives the most noteworthy :—

Station.	Date.	Highest maximum temperature recorded in May.
		°
Jacobabad	27th May	122·0
Khushab	,, ,,	118·9
Montgomery	,, ,,	117·5
Dera Ismail Khan	,, ,,	117·2
Peshawar	,, ,,	115·0
Sialkot	,, ,,	114·4
Lahore	,, ,,	114·6
Rawalpindi	,, ,,	114·0
Rawalpindi	28th ,,	114·0
Patiala	,, ,, ,,	108·8

A remarkable feature of the temperature conditions of the last week of the month was a large local fall in Baluchistan, due to conditions in the Persian area and independent of the changes in progress over India. The following table gives data in illustration :—

Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of				
	27th May.	28th May.	29th May.	30th May.	31st May.
	°	°	°	°	°
Baghdad	+2·9	?	?	?	?
Bushire	—3·9	—4·1	—3·7	—5·1	—2·7
Quetta	+4·1	—2·8	—8·4	—7·8	—7·7

These remarkable conditions lasted until the 4th or 5th June, as is shown by the following data :—

Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of					
	1st June.	2nd June.	3rd June.	4th June.	5th June.	6th June.
	°	°	°	°	°	°
Baghdad	+ 6·0	?	?	?	?	?
Bushire	— 0·2	— 1·1	— 2·0	—2·6	—2·4	—0·4
Teheran	— 9·7	— 7·9	— 4·7	+0·4	+2·7	+3·7
Quetta	—10·0	—10·7	—10·3	—5·4	—3·1	—2·5

The data hence indicate that the reduction in temperature was as marked in Persia as in Baluchistan, and was probably due to abnormal conditions in these areas or in the areas to the north-west.

The monsoon rains commenced on the 9th and 10th on the Konkan Coast and extended rapidly into the interior. Temperature was in general excess during the period from the 1st to the 10th. From the 1st to the 5th the excess was greatest in West Bengal and the Central Provinces. The following gives data for the stations at which the excess was greatest :—

Date.	Station.	Variation from normal of		
		Maximum temperature of 24 hours preceding 8 A.M. of date.	Minimum temperature of 24 hours preceding 8 A.M. of date.	Mean temperature of 24 hours preceding 8 A.M. of date.
		°	°	°
1st June	Hazaribagh	+ 7·0	+ 7·3	+ 7·3
2nd ,,	Nagpur	+ 6·5	+10·3	+ 8·4
3rd ,,	Chanda	+ 9·0	+ 7·9	+ 8·5
4th ,,	Nagpur	+ 7·1	+10·7	+ 8·9
5th ,,	Chanda	+10·4	+11·2	+10·8

The excess, as usual in the hot weather period, was larger in the night than in the day temperature.

The area of greatest excess of temperature was gradually transferred northwards and westwards during the

next week, as shown by the following data for the stations at which the excess was greatest from the 6th to the 12th :—

Date.	Station.	Variation from normal of: Maximum temperature of 24 hours preceding 8 A.M. of date.	Minimum temperature of 24 hours preceding 8 A.M. of date.	Mean temperature of 24 hours preceding 8 A.M. of date.
		°	°	°
6th June	Amraoti	+10·7	+ 9·5	+10·1
	Hoshangabad	+ 7·8	+11·8	+ 9·8
7th „	Nagpur	+ 9·9	+ 9·7	+ 9·8
	Seoni	+ 8·4	+10·6	+ 9·5
8th „	Nagpur	+ 8·6	+11·9	+10·3
	Ranchi	+10·9	+ 8·4	+ 9·7
9th „	Hazaribagh	+12·3	+ 7·8	+10·1
	Ranchi	+11·9	+ 7·7	+ 9·8
10th „	Ranchi	+11·7	+10·9	+11·3
	Sialkot	+ 9·6	+ 9·6	+ 9·6
11th „	Rawalpindi	+11·7	+ 8·6	+10·2
	Sialkot	+ 8·4	+ 8·9	+ 8·7
12th „	Rawalpindi	+ 9·7	+ 8·0	+ 8·9
	Dera Ismail Khan	+ 6·4	+ 9·5	+ 8·0

The extension of rainfall to Upper India was followed by a reduction of temperature ranging from 10° to 23°. The following data for seven stations illustrate this feature :—

Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of: 10th June.	14th June.	Reduction of temperature from the 10th to 14th June.
	°	°	°
Delhi	+7·3	−16·0	23·3
Ludhiana	+6·5	−11·3	17·8
Bareilly	+7·9	−14·9	22·8
Meerut	+8·3	−14·0	22·3
Gorakhpur	−1·5	−12·1	10·6
Jhansi	+1·8	−11·6	13·4
Agra	+2·3	−11·1	13·4

The following gives the highest maxima of the year exceeding 115° and the dates of their occurrence.

Province.	Station.	Highest maximum temperature recorded during the year.	Date on which recorded.
		°	
Punjab	Khushab	118·9	27th May.
	Mooltan	118·5	20th June.
	Montgomery	117·5	27th May.
	Dera Ismail Khan	117·2	27th May, 10th and 20th June.
	Lahore	116·6	8th June.
	Sialkot	115·9	10th June.
	Sirsa	115·8	13th May.
	Peshawar	115·5	20th June.
Sind	Jacobabad	125·0	20th June.
	Hyderabad	118·7	17th May.
Rajputana	Bikaner	115·8	12th May, 20th and 21st June.
	Pachpadra	115·8	16th May.
	Kotah	115·6	13th May.
Asiatic Turkey	Baghdad	118·9	27th June.

III.—The south-west monsoon period.—The temperature variations of this period are usually small in amount and depend upon the distribution and amount of the rainfall. During the monsoon period of 1899 they were unusually large over the area which usually receives its rain from the Bombay monsoon current due to the almost complete failure of these rains from July onwards. The monsoon rains set in somewhat later than usual in the Arabian Sea and extended to the Konkan Coast on the 10th and 11th. They advanced rapidly into the interior as the pressure conditions established during the hot weather were very favourable. The Central Provinces, Central India, Rajputana, the North-Western Provinces and the East Punjab received favourable and satisfactory rain during the next fortnight. The Bombay current decreased rapidly in strength from the 26th and dry weather set in over the central parts of the country.

The Bay current set in about the normal date and began to give general rain to Bengal and the Gangetic Plain from the 15th. It was fairly vigorous until September and gave more abundant rain than usual to North-Eastern India and Burma. The distribution of the rainfall due to this current was in part determined by a series of cyclonic storms and hence the eastern districts of the Central Provinces and Central India obtained occasional rain.

Occasional showers were received in the Deccan and West Coast districts, but the Bombay current gave no heavy general rain after the fourth week of June. The drought was hence most severe in the northern districts depending upon it, including Cutch, Kathiawar, Gujarat and Rajputana.

The following gives the chief features of the temperature conditions of the period :—

1st.—Temperature was more or less considerably above the normal over the whole area dependent upon the Bombay monsoon current during the period from July to September and also on the mean of the whole period. The excess was considerably greater in the night than in the day temperature. The mean temperature was steadily in slight defect in Baluchistan due solely to abnormally low night temperature. The three following tables give data in illustration :—

Area.	Variation of mean maximum temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Baluchistan (Quetta)	0	+2·3	+1·9	+0·6	+1·2
Punjab	−0·5	+1·0	+4·9	+5·6	+2·8
Sind	+0·9	+0·9	+2·0	+1·5	+1·3
Rajputana	0	+2·5	+9·4	+6·3	+4·6
Central India	−2·6	−1·7	+5·9	+6·7	+2·2
Central Provinces	+0·3	+1·0	+4·4	+6·1	+3·0
Berar	+1·5	+3·7	+6·6	+9·5	+5·3
Gujarat	−0·8	+2·2	+5·0	+3·1	+2·4
West Coast	+0·3	+2·0	+2·0	+0·3	+1·2
Bombay Deccan	−0·4	+2·6	+4·8	+4·7	+2·9
Madras Coast	+1·6	+5·7	+3·9	+1·4	+2·9
Madras Deccan	+1·6	+4·7	+3·4	+1·4	+2·3
South India	+0·9	+3·1	+3·4	+0·8	+2·1

Area.	Variation of mean minimum temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Baluchistan (Quetta)	−0·6	−3·3	−3·3	−4·1	−3·3
Punjab	+1·0	+2·1	+2·3	+1·8	+1·8
Sind	+0·1	−0·1	+0·1	−0·8	−0·2
Rajputana	+0·6	+2·1	+4·9	+4·3	+3·0
Central India	−0·8	−0·1	+2·1	+0·9	+0·5
Central Provinces	+1·4	+0·7	+1·4	+1·2	+1·2
Berar	+1·5	+1·3	+1·9	+2·5	+1·8
Gujarat	−0·4	+1·1	+0·4	−0·3	+0·2
West Coast	0	+1·5	+0·9	+0·7	+0·8
Bombay Deccan	+0·2	+0·7	+0·4	+0·7	+0·5
Madras Coast	+0·5	+2·5	+1·4	+0·8	+1·3
Madras Deccan	+1·1	+2·2	+1·9	+1·0	+1·6
South India	+0·8	+1·1	+1·7	+0·5	+1·0

Area.	Variation of mean temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Baluchistan (Quetta)	−0·3	−1·5	−0·7	−1·8	−1·1
Punjab	+0·3	+1·6	+3·6	+3·7	+2·3
Sind	+0·5	+0·4	+1·1	+0·4	+0·6
Rajputana	+0·3	+2·3	+7·2	+5·3	+3·8
Central India	−1·7	−0·9	+4·0	+3·8	+1·3
Central Provinces	+0·9	+0·9	+2·9	+3·7	+2·1
Berar	+1·5	+2·5	+4·3	+6·0	+3·6
Gujarat	−0·6	+1·7	+2·7	+1·4	+1·3
West Coast	+0·2	+1·8	+1·5	+0·5	+1·0
Bombay Deccan	−0·1	+1·7	+2·6	+2·7	+1·7
Madras Coast	+2·1	+4·1	+2·2	+1·1	+2·1
Madras Deccan	+1·4	+3·5	+2·7	+1·2	+2·2
South India	+0·9	+2·1	+2·6	+0·7	+1·6

The excess in the temperature was most marked in Rajputana and Berar where it averaged nearly 4° for the period.

2nd.—Temperature was generally normal or below it in the area supplied by the Bay current. It was more or less in defect of the normal during the first two months and above the normal in August and September. The deficiency was moderately large in the first two months of the monsoon period in the North-Western Provinces, Oudh and Assam. As is usual in the rains, the variations were more pronounced in the day than in the night temperature.

The following gives comparative data in illustration :—

Area.	Variation of mean maximum temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
North-Western Provinces and Oudh	−3·3	−3·5	+3·6	+4·5	+0·3
Bihar	−1·4	−3·0	+0·8	+1·4	−0·6
Chota Nagpur	+0·3	−1·0	+2·4	+3·5	+1·3
Orissa	−2·0	+0·5	+2·8	+3·1	+1·1
Bengal	−1·2	−0·5	+1·1	+1·3	+0·2
Assam	−2·4	−2·7	−0·6	−1·4	−1·8
Burma, Upper	−1·5	−1·3	+0·4	−0·3	−0·7
Burma, Lower	−0·4	+0·5	+0·6	+0·7	+0·4

Area.	Variation of mean minimum temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
North-Western Provinces and Oudh.	−1·9	−1·0	+1·6	+0·1	−0·3
Bihar	+0·1	−0·7	+0·4	+0·2	0
Chota Nagpur	+0·3	+0·2	+1·6	+0·7	+0·7
Orissa	−0·8	−0·3	+1·2	+0·6	+0·2
Bengal	−0·2	0	+0·9	+0·7	+0·4
Assam	−0·9	−0·4	+0·2	−0·2	−0·3
Burma, Upper	−0·4	+0·5	+0·9	+0·8	+0·5
Burma, Lower	+0·2	+1·0	+1·2	+1·7	+1·0

Area.	Variation of mean temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
North-Western Provinces and Oudh.	−2·6	−2·3	+2·6	+2·3	0
Bihar	−0·7	−1·9	+0·6	+0·8	−0·3
Chota Nagpur	+0·3	−0·4	+2·0	+2·1	+1·0
Orissa	−1·4	+0·1	+2·0	+1·9	+0·8
Bengal	−0·7	−0·3	+1·0	+1·0	+0·3
Assam	−1·7	−1·6	−0·2	−0·8	−1·1
Burma, Upper	−1·0	−0·4	+0·7	+0·3	−0·1
Burma, Lower	−0·1	+0·8	+0·9	+1·2	+0·7

The variations on the mean of the period were small and exceeded 1° only in Assam, where the mean temperature of the period was 1°·1 below the normal.

IV.—The retreating south-west moonsoon period.—The temperature conditions and their variations from the normal were as large and pronounced during this period as during the preceding period. They were in part a legacy of the south-west monsoon period and in part due to the deficient rainfall in the Peninsula during the period, October to December.

During the first week of October weather was fine and dry. A cyclonic storm, which formed in the second week of the month, passed north-eastwards into Bengal and gave fairly general rain in the south and east of the Peninsula, Bengal, Orissa, Assam and Upper Burma from the 12th to the 16th. A diffused disturbance gave general rain to Bengal, Bihar, Assam and Burma from the 21st to the end of the month. Light rain also fell during this period in South and East Madras. Temperature was steadily in excess during the month over the large area which received no rain, including Rajputana, Central India, North Bombay, Berar, the Central Provinces and the Deccan.

Fine settled weather obtained in November over the greater part of the interior of India. The Bay humid current was chiefly directed toward Burma and Assam and these provinces received more rain than usual at the expense of the Madras Coast districts. There was only one period of unsettled weather in the Bay during the month (from the 8th to the 12th). A very severe squall or small cyclonic storm struck the South Coromandel Coast at Negapatam on the 12th and gave moderate to heavy rain in South Madras and Ceylon. Four feeble depressions affected the weather slightly in Upper India, giving cloud in the plains and showers in the hills. They gave rise to moderate temperature variations of slight importance. The chief features of the temperature conditions of the month were, (1) excessive temperature over nearly the whole of the interior including the Punjab, Rajputana, Sind, Central India, North Bombay, Berar, the Central Provinces and the Deccan, and (2) slight to moderate deficiency in Burma, Assam and Bengal.

Weather was finer and less disturbed than usual in December. The south-west humid winds withdrew from the Bay considerably earlier than usual, in the last week of November or first week of December. Hence little rain fell in the Coromandel Coast districts or in Southern India. Several feeble depressions which formed in the Persian area affected the weather slightly in Upper India, giving cloud and light showers of little importance in the plains and hills.

The variations of the temperature conditions from the normal in this month were even more pronounced than in October or November. Temperature was largely and steadily in excess in the large area including Rajputana, Central India, North Bombay, Berar, the Central Provinces and the Deccan. The excess was greatest in Khandesh, the Bombay Deccan, Berar and the Central Provinces from the 1st to the 14th and in Rajputana, Cutch, Kathiawar and Gujarat from the 15th to the 23rd, and in Baluchistan and the Punjab from the 26th to the 31st.

The following summarizes the chief temperature conditions of the period:—

(1) The chief feature of the temperature conditions was the large excess of temperature over by far the greater part of the interior, including Sind, the Punjab

Rajputana, Central India, the North-Western Provinces, the Central Provinces, Berar, the Deccan and North Bombay. The excess was, as a rule, most marked in the day temperature.

The following gives data in illustration :—

Area.	Variation of mean maximum temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Punjab	+1·4	+2·0	+3·5	+2·3
Rajputana	+4·7	+4·6	+4·9	+4·7
Sind	+2·3	+3·5	+5·0	+3·6
Gujarat	+6·5	+5·6	+6·2	+6·1
North-Western Provinces and Oudh.	+4·2	+3·8	+3·5	+3·8
Central India	+7·5	+6·8	+5·6	+6·6
Central Provinces	+7·0	+7·2	+6·3	+6·8
Berar	+10·0	+9·0	+8·2	+9·1
Bombay Deccan	+8·3	+7·0	+4·6	+6·6
Madras Deccan	+5·0	+5·6	+4·1	+4·9

The mean maximum temperature was in large excess over the greater part of this area. The excess was abnormally large in Berar, where it averaged 9°·1.

Area.	Variation of mean minimum temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Punjab	−0·7	+5·4	+4·2	+3·0
Rajputana	+2·7	+6·0	+5·4	+4·7
Sind	−2·8	+2·8	+4·8	+1·6
Gujarat	+0·6	+2·4	+5·3	+2·8
North-Western Provinces and Oudh.	−0·9	+2·0	+2·2	+1·1
Central India	+1·3	+2·7	+3·8	+2·6
Central Provinces	−0·4	+0·8	+3·4	+1·3
Berar	+2·8	+1·4	+4·0	+2·7
Bombay Deccan	+1·6	−0·3	+1·1	+0·8
Madras Deccan	+1·0	−1·2	−0·9	−0·4

The night temperature was in general excess in the same areas, but by smaller amounts than the day temperature. The excess was greatest in Rajputana where it averaged 4°·7 for the period.

Area.	Variation of mean temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Punjab	+0·4	+3·7	+3·9	+2·7
Rajputana	+3·7	+5·3	+5·2	+4·7
Sind	−0·3	+3·2	+4·9	+2·6
Gujarat	+3·6	+4·0	+5·8	+4·5
North-Western Provinces and Oudh.	+1·7	+2·9	+2·9	+2·5
Central India	+4·4	+4·8	+4·7	+4·6
Central Provinces	+3·3	+4·0	+4·9	+4·1
Berar	+6·4	+5·2	+6·1	+5·9
Bombay Deccan	+5·0	+3·4	+2·9	+3·8
Madras Deccan	+3·0	+2·2	+1·6	+2·3

The mean temperature of the period was 6° above the normal in Berar and 5° in Rajputana, Central India and Gujarat, the areas of greatest drought during the previous monsoon rains.

The excess was greatest in the central area including the western and southern districts of the Central Provinces, Berar, Khandesh, Central India and North Bombay, and defined by the stations for which comparative data are given in the three following tables :—

Station.	Variation of maximum temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Akola	+10·8	+9·0	+8·2	+9·3
Amraoti	+ 9·2	+8·2	+7·2	+8·2
Khandwa	+11·5	+9·5	+7·6	+9·5
Chanda	+ 7·8	+7·6	+7·0	+7·8
Nagpur	+ 8·2	+8·1	+7·2	+7·8
Malegaon	+11·2	+9·6	+6·8	+9·2
Indore	+ 9·0	+8·2	+6·3	+7·8
Surat	+ 8·9	+7·8	+7·2	+8·0
Deesa	+ 7·2	+4·8	+5·2	+5·7
Neemuch	+ 7·5	+6·0	+5·7	+6·4

Station.	Variation of minimum temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Akola	+2·0	+1·4	+4·0	+2·5
Amraoti	+3·5	?	?	?
Khandwa	+2·9	+2·3	+4·7	+3·3
Chanda	−2·3	−1·1	+2·3	−0·4
Nagpur	+0·1	+0·9	+3·9	+1·6
Malegaon	+3·3	+2·0	+3·2	+2·8
Indore	+2·1	+1·7	+3·3	+2·4
Surat	+2·2	+2·6	+4·6	+3·1
Deesa	+5·0	+5·7	+7·9	+6·2
Neemuch	+3·2	+4·3	+5·0	+4·2

Station.	Variation of mean temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Akola	+6·4	+5·2	+6·1	+5·9
Amraoti	+6·4	?	?	?
Khandwa	+7·2	+5·9	+6·2	+6·4
Chanda	+2·8	+3·8	+4·7	+3·8
Nagpur	+4·2	+4·5	+5·6	+4·8
Malegaon	+7·3	+5·8	+5·0	+6·0
Indore	+5·6	+5·0	+4·8	+5·1
Surat	+5·6	+5·2	+5·9	+5·6
Deesa	+6·1	+5·3	+6·6	+6·0
Neemuch	+5·4	+5·2	+5·4	+5·3

The abnormally high temperature in that area during the month of December is shown more fully by the comparative data, day by day, for the stations at which the excess was largest in amount.

Date.	Station.	Variation from normal of		
		Maximum temperature of date.	Minimum temperature of date.	Mean temperature of date.
		°	°	°
4th December	Khandwa	+10·1	+ 5·9	+ 8·0
5th ,,	Akola	+ 9·9	+15·7	+12·8
6th ,,	Akola	+10·7	+12·2	+11·5
7th ,,	Akola	+ 9·7	+14·9	+12·3
8th December	Khandwa	+ 9·2	+ 9·0	+ 9·1
9th ,,	Chanda	+11·6	+ 7·2	+ 9·4
10th ,,	Chanda	+10·7	+ 8·2	+ 9·5
11th ,,	Akola	+ 7·4	+10·0	+ 8·7
12th ,,	Khandwa	+ 5·3	+15·6	+10·5
13th ,,	Malegaon	+ 5·1	+12·4	+ 8·8
14th ,,	Surat	+ 7·1	+ 9·6	+ 8·4
15th ,,	Deesa	+ 5·5	+13·0	+ 9·3
16th ,,	Saugor	+ 7·7	+10·3	+ 9·0
17th ,,	Neemuch	+ 8·2	+ 9·7	+ 9·0
18th ,,	Khandwa	+10·4	+13·2	+11·8
19th ,,	Deesa	+ 7·2	+14·1	+10·7
20th ,,	Deesa	+ 7·5	+11·4	+ 9·5
21st ,,	Deesa	+ 6·0	+10·8	+ 8·4
22nd ,,	Bhuj	+10·2	+ 4·2	+ 7·2
23rd ,,	Bikaner	+11·2	+13·0	+12·1
24th ,,	Bikaner	+ 9·9	+10·2	+10·1

Higher day temperatures were registered in these areas in the months of November and December than have been previously recorded. The following gives data in illustration:—

Station.	Highest maximum temperature recorded in November.	Date on which recorded.	Highest maximum temperature recorded in November previous to 1899.	Year in which recorded.
Ahmedabad	102·3	5th	98·2	1896
Surat	101·7	1st	97·7	1878 and 1898
Kurrachee	98·4	3rd and 5th	95·8	1886
Bhavnagor Para	98·1	1st and 2nd	97·6	1898
Kotah	98·0	1st	97·5	1898
Akola	97·5	3rd	96·5	1896
Jaipur	96·2	1st	94·5	1895 and 1898
Chanda	96·2	2nd and 3rd	94·9	1877 and 1896
Nagpur	96·1	2nd	94·8	1896
Sutna	94·5	3rd	92·4	1896
Cawnpore	94·3	1st	93·3	1895, 1896 and 1897
Saugor	93·3	3rd	92·3	1896
Khandwa	98·7	1st and 5th	97·7	1896

Station.	Highest maximum temperature recorded in December.	Date on which recorded.	Highest maximum temperature recorded in December previous to 1899.	Year in which recorded.
	°		°	
Agra	85·5	3rd, 4th, 5th and 31st.	85·2	1889
Sirsa	88·7	1st	87·0	1889
Lahore	86·6	,,	81·8	1889
Montgomery	86·0	,,	84·3	1894
Umballa	83·0	2nd	80·0	1898
Sialkot	82·0	,,	80·1	1878
Rawalpindi	82·0	,,	79·0	1886
Deesa	95·6	1st, 2nd and 3rd	94·8	1891
Pachpadra	92·7	2nd	90·5	1894
Bikaner	88·2	1st and 2nd	85·9	1886
Jaipur	87·2	3rd	86·2	1889
Sambhar	86·9	30th	84·9	1894
Hyderabad (Sind)	92·1	3rd and 11th	91·6	1897
Kurrachee	90·4	1st	89·4	1898
Surat	97·2	1st, 2nd and 3rd	96·7	1896
Ahmedabad	96·2	3rd	94·2	1896
Veraval	95·1	1st	94·6	1896
Bhuj	92·8	2nd	91·5	1877
Malegaon	98·4	7th	95·5	1896
Raichur	96·6	17th	89·6	1891

(2) Temperature was in defect on the mean of the period in Burma, Assam, Bengal and North Bihar. This deficiency was small in amount in October but increased in November and December and was slight to considerable in amount in the latter month. The following gives comparative data :—

Area.	Variation of mean maximum temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Lower Burma	+1·8	—1·2	—0·9	—0·1
Upper Burma	—0·9	—2·3	—2·1	—1·8
Assam	—1·4	—1·0	—3·4	—1·9
Bengal	—0·7	—0·2	—0·2	—0·4
North Bihar	+0·4	—0·6	—1·3	—0·5

Area.	Variation of mean minimum temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Lower Burma	+0·7	—0·8	—2·0	—0·7
Upper Burma	+1·3	—0·1	—1·3	0
Assam	—0·4	—1·3	—1·2	—1·0
Bengal	—0·3	—2·3	—0·3	—1·0
North Bihar	+0·3	—0·7	+0·6	+0·1

Area.	Variation of mean temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Lower Burma	+1·3	—1·0	—1·5	—0·4
Upper Burma	+0·2	—1·2	—1·7	—0·9
Assam	—0·9	—1·2	—2·3	—1·5
Bengal	—0·5	—1·3	—0·3	—0·7
North Bihar	+0·4	—0·7	—0·4	—0·2

The year.—The following table gives the variations of the mean temperature of Extra-Tropical and Tropical India and also of the whole of India from the normal month by month, during the year 1899:—

Month.	Variation from normal of mean daily temperature in		
	Extra-Tropical India from Table II.	Tropical India from Table II.	Whole India from Table II.
	°	°	°
January	—3·5	—0·9	—2·2
February	+1·4	+0·4	+0·9
March	+2·5	+0·8	+1·6
April	—0·7	—1·5	—1·1
May	+2·1	—0·4	+0·8
June	—0·1	+0·3	+0·1
July	+0·2	+1·7	+0·9
August	+1·8	+2·2	+2·0
September	+1·7	+1·6	+1·6
October	+1·3	+2·6	+2·0
November	+1·2	+1·1	+1·2
December	+2·0	+1·0	+1·5
Whole year	+0·8	+0·7	+0·8

The preceding data indicate the chief variations of the mean temperature of the Indian land area from month to month during the year. The following gives the more important features:—

The most important feature of the mean temperature of the year was the excess over the whole Indian area excluding Burma, Assam, Bengal, Bihar and the eastern districts of the North-Western Provinces. The following gives comparative data:—

Area.	Variation from normal of		
	Mean maximum temperature.	Mean minimum temperature.	Mean daily temperature.
	°	°	°
Baluchistan (Quetta)	+1·7	−0·3	+0·7
Punjab	+2·3	+2·3	+2·3
Rajputana	+3·4	+2·5	+3·0
Sind	+2·0	+0·3	+1·2
Central India	+2·6	+1·0	+1·8
Chota Nagpur	+1·3	+0·3	+0·8
Central Provinces	+2·5	+0·8	+1·7
Berar	+3·7	+1·2	+2·5
West Coast	+0·5	+0·1	+0·3
Bombay Deccan	+2·3	−0·1	+1·1
Madras Coast	+1·4	+0·3	+0·9
Madras Deccan	+1·8	+0·2	+1·0
South India	+0·2	0	+0·1

The excess was hence most pronounced in the central area including the Punjab, Rajputana, the western districts of Central India, Berar, the west and south of the Central Provinces and Gujarat in which it ranged between 2°·0 and 3°·5. It was 3° or upwards at stations for which data are given below:—

Station.	Variation from normal of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Sialkot	+3·5	+3·3	+3·4
Lahore	+2·9	+3·1	+3·0
Bikaner	+3·1	+2·8	+3·0
Deesa	+4·0	+2·0	+3·0
Ajmer	+3·4	+3·2	+3·3
Jhansi	+2·6	+3·4	+3·0

The second important feature of the mean temperature of the year was a slight deficiency in the area comprising Upper and Central Burma, Assam, Bengal, Bihar and the eastern district of the North-Western Provinces. The following gives data:—

Area.	Variation from normal of		
	Mean maximum temperature.	Mean minimum temperature.	Mean daily temperature.
	°	°	°
Lower Burma	−0·3	+0·6	+0·2
Burma (Central and Upper)	−0·8	+0·3	−0·3
Assam	−1·0	−0·6	−0·8
Bengal	−0·1	0	−0·1
Bihar	−0·4	+0·3	−0·1
North-Western Provinces (East)	+0·2	−0·3	−0·1

The following table gives the progressive variation of the mean actual temperature of the past 25 years:—

Year.	Number of stations.	Mean anomaly.	Progressive variation.
		°	°
1875	72	−0·29	...
1876	72	−0·08	+0·21
1877	74	+0·17	+0·25
1878	74	+0·62	+0·45
1879	70	−0·13	−0·75
1880	106	−0·13	+0·26
1881	110	−0·01	−0·14
1882	113	−0·11	−0·10
1883	122	−0·48	−0·37
1884	122	−0·61	−0·13
1885	118	−0·29	+0·32
1886	122	+0·08	+0·37
1887	126	−0·23	−0·31
1888	127	+0·36	+0·59
1889	81	+0·86	+0·50
1890	85	+0·13	+0·73
1891	72	−0·03	−0·16
1892	74	+0·66	+0·69
1893	68	−1·33	−1·99
1894	66	+0·11	+1·44
1895	69	+0·35	+0·24
1896	67	+1·30	+2·95
1897	75	+0·90	−0·40
1898	75	+0·65	−0·25
1899	52	+0·78	+0·13

Atmospheric Pressure.

Full information of the barometers in use at Indian observatories and of the methods of reducing the observations and obtaining the mean daily and monthly pressure will be found in the annual reports formerly issued by the Department (*e.g.*, pages 58 and 59 of the report for 1890) and also in pages 8-9 of the monthly review for January 1899.

In Table II of each monthly review the monthly mean daily pressure (corrected for temperature) is given in the fifth figure column, and the variation from the normal in the sixth figure column. The normal monthly mean pressure values were recalculated for all first and second class stations in 1896, and will be found in Table VI of the Annual Summary for that year. The additional data for the years 1891—1895 were utilized in calculating these means, which are hence based upon the whole of the available data up to the year 1896. The variation data in the monthly reviews for the year 1899 were obtained by a comparison of the actual monthly means with the corresponding normal monthly means published in the Annual Summary for 1896, and the variations of the monthly pressures of all first and second class stations in 1899 are given in Table V (below). The figures in the fifth and sixth figure columns of Table II appended to the present Annual Summary, giving data of the mean pressure of the air and its variation from the normal for all first and second class stations, are comparable with the corresponding data of previous years published in the annual reports and summaries.

In the seventh figure column of Table II in each monthly review the mean pressures reduced to sea-level and corrected to constant gravity (Lat. 45°) are given. These, it should be noted, are not comparable with the sea-level pressure values of the years 1875—90 as given in the annual reports for those years, for previously to 1891 no correction was made to reduce the monthly pressure means to standard gravity.

In Table I of each monthly review and also in that appended to the Annual Summary, the pressure data are given for a fixed hour (*viz.*, 8 A.M., local time) of the day. The second figure column in those tables gives the mean 8 A.M, pressures for the month corrected for temperature. In the third figure column the variations of the mean 8 A.M. pressures from the normal mean 8 A.M. pressures are exhibited.

Normal 8 A.M. mean monthly data for the great majority of stations will be found in the Annual Summary of 1894, Tables VII and VIII.

The mean pressure data for the year 1899 will be found under the headings "Pressure" in Tables I and II appended to the present Annual Summary.

TABLE V.—*Comparison of monthly mean pressures in 1899 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	Port Blair	—·004	—·008	—·003	+·010	+·004	+·045	+·020	—·005	+·038	+·041	+·047	+·028	+·018
	Rangoon	—·021	—·027	—·021	—·009	—·008	+·033	—·018	—·033	+·010	+·037	+·029	—·006	—·003
	Diamond Island	—·011	—·021	—·018	—·004	—·036	+·028	—·011	—·028	+·016	+·042	+·040	+·007	0
	Cocos Island	—·011	—·030	—·007	?	0	+·014	—·004	—·037	+·013	+·028	+·031	—·007	—·001
	Akyab	—·018	—·026	—·021	—·010	—·036	+·020	—·027	—·029	+·011	+·045	+·023	—·005	—·006
Bengal and Orissa.	Chittagong	—·012	—·045	—·035	—·014	—·046	+·008	—·042	—·034	0	+·034	+·021	—·012	—·015
	Calcutta (Alipur)	+·002	—·038	—·030	+·003	—·033	+·036	+·006	—·018	+·035	+·054	+·025	—·013	+·002
	Saugor Island	—·005	—·047	—·036	—·002	—·049	+·034	+·015	—·013	+·042	+·056	+·034	—·010	+·002
	False Point	—·011	—·047	—·034	+·001	—·051	+·024	+·010	—·038	+·034	+·042	+·023	—·017	—·005
Gangetic Plain and Chota Nagpur.	Hazaribagh	—·017	—·050	—·014	+·004	—·016	+·014	+·011	—·006	+·052	+·039	+·011	—·016	+·001
	Darbhanga	+·010	—·048	—·029	+·010	—·039	+·006	—·011	—·024	+·019	+·032	+·021	—·022	—·009
	Allahabad	+·010	—·056	—·021	0	—·027	+·004	+·010	—·003	+·044	+·028	+·003	—·025	—·003

TABLE V.—*Comparison of monthly mean pressures in 1899 with the averages of past years*—contd.

Meteorological Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Upper Sub-Himalayas.	Dehra Dun	−·011	−·053	−·010	−·005	−·036	−·016	−·012	−·011	+·017	+·028	+·001	−·016	−·010
	Roorkee	0	−·058	−·016	+·003	−·025	+·001	0	−·018	+·017	+·032	+·002	−·024	−·007
	Meerut	−·004	−·064	−·020	−·004	−·035	−·005	−·006	−·024	+·018	+·021	−·012	−·032	−·014
	Lahore	+·008	−·063	−·009	−·014	−·049	−·014	−·027	−·018	+·024	+·031	−·012	−·023	−·014
	Ludhiana	+·013	−·059	−·010	−·001	−·032	−·009	−·018	−·012	+·019	+·031	−·003	−·015	−·008
Indus Valley and North-West Rajputana.	Peshawar	−·009	−·051	−·007	−·023	−·074	−·043	−·041	−·022	+·010	+·020	−·007	−·020	−·022
	Jacobabad	+·012	−·066	−·007	−·019	−·039	−·032	−·026	0	+·040	+·033	−·007	−·032	−·012
	Kurrachee	+·035	−·046	+·014	−·030	−·030	−·016	+·030	+·038	+·061	+·016	+·010	−·026	+·005
East Rajputana, Central India and Gujarat.	Jaipur	+·013	−·045	+·015	−·013	−·022	+·002	+·026	+·021	+·052	+·023	+·005	−·004	+·006
	Deesa	+·025	−·038	+·003	−·031	−·040	−·009	+·035	?	+·058	+·001	+·009	−·002	+·003
Deccan	Belgaum	−·012	−·031	−·005	−·001	−·004	−·006	+·040	+·021	+·039	+·010	+·033	+·013	+·008
	Sholapur	−·005	−·037	−·003	+·009	−·006	−·004	+·038	+·016	+·045	+·015	+·029	+·009	+·009
	Poona	+·002	−·024	+·006	+·006	−·002	+·001	+·057	+·038	+·059	+·013	+·032	+·016	+·017
	Akola	+·007	−·033	+·006	+·012	−·010	+·002	+·046	+·023	+·051	+·014	+·010	+·001	+·011
	Buldana	+·005	−·030	+·009	+·001	−·013	−·002	+·043	+·028	+·056	+·016	+·017	+·011	+·012
	Khandwa	+·020	−·027	+·016	−·001	−·001	+·006	+·055	+·039	+·064	+·015	+·014	+·010	+·018
	Nagpur	+·009	−·021	+·016	+·022	−·009	+·006	+·053	+·022	+·071	+·041	+·018	+·006	+·020
	Hyderabad (Deccan)	−·007	−·036	?	+·020	−·012	+·012	+·038	+·022	+·052	+·032	+·020	−·002	+·013
West Coast	Bombay	+·011	−·021	−·007	+·003	0	+·002	+·078	+·045	+·073	+·018	+·037	+·016	+·021
	Karwar	−·006	−·030	−·007	−·006	+·002	0	+·040	+·030	+·060	+·032	+·066	+·022	+·017
South India	Salem	0	−·034	−·007	0	−·017	−·003	−·003	−·022	+·023	+·017	+·045	+·023	+·002
	Chitaldroog	+·004	−·036	+·013	+·008	−·011	+·018	+·025	+·018	+·045	+·026	+·032	+·007	+·012
	Bangalore	−·012	−·032	−·003	−·001	−·004	+·007	+·020	+·007	+·032	+·014	+·046	+·014	+·007
	Hassan	+·007	−·030	+·015	+·002	−·014	+·019	+·023	+·011	+·035	+·014	+·033	+·012	+·011
	Mysore	+·004	−·036	+·016	0	−·013	+·023	+·021	+·006	+·038	+·015	+·031	+·013	+·010
	Madras	−·001	−·031	−·004	+·007	−·004	+·012	+·018	−·010	+·032	+·025	+·051	+·033	+·011
	Bellary	−·013	−·040	−·003	+·001	−·008	+·002	+·027	+·008	+·038	+·014	+·036	+·013	+·006
	Cocanada	−·007	−·048	+·003	+·020	−·003	+·025	+·024	+·003	+·056	+·025	+·022	+·004	+·010
	Vizagapatam	−·005	−·036	−·008	+·011	−·032	+·026	?	?	?	?	?	?	
Hill Station Baluchistan	Quetta	+·023	−·014	+·023	+·092	+·001	−·012	+·020	+·026	+·050	+·043	+·016	+·001	+·015
	Leh	+·042	+·055	+·059	−·016	+·031	−·006	+·001	+·016	+·034	+·054	+·022	−·009	+·024
Hill Stations, Northern India.	Srinagar	+·048	+·010	+·028	+·006	−·007	−·028	−·018	+·031	+·062	+·008	+·009	−·025	+·011
	Simla (Ridge)	−·026	−·008	+·039	−·001	+·003	−·007	−·002	+·019	+·041	+·048	+·030	+·009	+·012
	Chakrata	−·035	−·018	+·024	−·009	−·002	−·007	−·003	+·010	+·030	+·048	+·027	−·007	+·004
	Ranikhet	−·018	−·017	+·025	+·002	−·007	−·012	−·015	0	+·036	+·056	+·025	+·003	+·007
	Katmandu	−·009	−·044	−·079	−·058	?	?	?	?	?	?	?	?	?
	Darjeeling	−·023	−·030	−·028	−·031	−·021	+·015	+·015	+·013	+·035	+·061	+·044	+·004	+·009

TABLE V.—*Comparison of the monthly mean pressure in 1899 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Hill Stations, Central India.	Mount Abu	−·021	−·052	+·015	−·031	−·024	−·007	+·020	+·043	+·045	−·003	0	+·002	−·001
	Pachmarhi	−·008	−·027	+·016	−·014	−·017	−·001	+·039	+·031	+·069	+·035	+·026	+·020	+·014
	Chikalda	−·019	−·025	+·016	−·003	−·009	+·005	+·041	+·031	+·063	+·032	+·029	+·015	+·015
Hill Station, Southern India.	Wellington	−·018	−·031	+·003	−·024	−·015	−·002	+·011	−·003	+·022	+·016	+·031	+·009	0
Extra Indian Stations.	Aden	+·029	−·020	0	−·012	+·003	+·043	+·063	+·039	+·068	+·044	+·024	−·008	+·023
	Perim	+·048	−·010	+·008	−·009	−·007	+·039	+·022	0	+·046	+·044	+·015	−·007	+·016
	Zanzibar	+·024	−·032	+·005	+·008	0	+·029	+·020	+·012	+·048	+·007	−·002	−·012	+·009
	Port Victoria (Seychelles).	−·003	−·028	+·012	−·001	−·017	+·029	+·012	+·018	+·043	+·024	+·028	−·003	+·010
	Mauritius	−·036	−·037	−·023	−·008	−·007	−·007	+·064	+·051	+·014	−·007	−·020	+·023	+·001

The following tables give summaries of the pressure variation data according to the two groups of divisions employed in the corresponding tables of temperature variation data, that is, for the eighteen divisions for which the variation data were given in the "Geographical Summaries" in the annual reports previous to 1891 and the eleven meteorological provinces in Table I of each monthly review:—

TABLE VI.—*Geographical summary of the pressure variation data of Table II in the monthly weather reviews of 1899.*

Meteorological Province.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalaya	5	+·002	+·004	+·035	−·004	−·004	−·012	−·007	+·015	+·041	+·043	+·021	−·006	+·011
Sikkim Himalaya and Nepal.	1–2	−·016	−·037	−·054	−·045	−·021	+·015	+·015	+·013	+·035	+·061	+·044	+·004	−·001
Punjab Plains	3	+·004	−·058	−·009	−·013	−·052	−·022	−·029	−·017	+·018	+·027	−·007	−·019	−·015
Gangetic Plain	5	+·001	−·056	−·019	+·001	−·032	−·002	−·004	−·016	+·023	+·028	+·003	−·024	−·008
Western Rajputana	3–4	+·013	−·051	+·006	−·028	−·028	−·016	+·015	+·027	+·051	+·012	+·003	−·015	−·001
Eastern Rajputana and Central India.	1	+·013	−·045	+·015	−·013	−·022	+·002	+·026	+·021	+·052	+·023	+·005	−·004	+·006
Nerbudda Valley	1	+·020	−·027	+·016	−·001	−·001	+·006	+·055	+·039	+·064	+·015	+·014	+·010	+·018
Chota Nagpur	1	−·017	−·050	−·014	+·004	−·016	+·014	+·011	−·006	+·052	+·039	+·011	−·016	+·001
Lower Bengal	2	−·002	−·043	−·033	−·001	−·041	+·035	+·011	−·016	+·039	+·055	+·030	−·012	+·002
Orissa	1	−·011	−·047	−·034	+·001	−·051	+·024	+·010	−·038	+·034	+·042	+·023	−·017	−·005
Central Provinces (South) and Berar.	5	−·001	−·027	−·013	+·004	−·012	+·002	+·044	+·027	+·062	+·028	+·020	+·011	+·012
Konkan	2	−·003	−·026	−·007	−·002	+·001	+·001	+·059	+·038	+·067	+·025	+·052	+·019	+·019
Deccan, Hyderabad and Mysore.	8–9	−·004	−·034	+·005	+·005	−·008	+·008	+·039	+·016	+·043	+·017	+·032	+·011	+·011

TABLE VI.—*Geographical summary of the pressure variation data of Table II in the monthly weather reviews of 1899*—concld.

Meteorological Provinces.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Eastern Coast and Carnatic.	3–4	−·003	−·037	−·004	+·010	−·014	+·015	+·013	−·010	+·037	+·022	+·039	+·020	+·007
Arakan and Pegu	4	−·016	−·030	−·024	−·009	−·032	+·022	−·025	−·031	+·009	+·040	+·028	−·004	−·006
Bay Islands	1–2	−·068	−·019	−·005	+·010	+·002	+·030	−·008	−·021	+·026	+·035	+·039	+·011	+·008
Extra-Tropical India	23–25	+·002	−·038	−·004	−·010	−·025	−·003	+·002	+·001	+·037	+·032	+·011	−·013	−·001
Tropical India	26–27	−·005	−·031	−·001	+·002	−·012	+·011	+·023	+·006	+·040	+·025	+·032	+·010	+·008
Whole India	49–52	−·002	−·035	+·003	−·004	−·019	+·004	+·013	+·004	+·039	+·029	+·022	−·002	+·004

TABLE VII.—*Variations of the mean monthly pressure from the normal in 1899 in the eleven meteorological provinces of India.*

Meteorological Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands	−·014	−·026	−·026	−·015	−·024	+·030	−·020	−·033	+·020	+·044	+·047	+·014	0
Burma Inland	+·007	−·031	−·002	−·002	−·017	+·033	−·054	−·026	+·027	+·051	+·014	+·018	+·001
Assam	−·010	−·037	−·012	+·009	−·044	+·013	−·026	−·036	+·015	+·053	+·036	+·003	−·003
Bengal and Orissa	−·007	−·044	−·022	+·009	−·042	+·022	−·011	−·027	+·024	+·049	+·038	+·006	0
Gangetic Plain and Chota Nagpur.	−·009	−·049	−·026	+·013	−·026	+·002	−·008	−·016	+·030	+·039	+·016	−·012	−·004
Upper Sub-Himalayas	0	−·048	−·010	+·005	−·025	−·005	−·021	−·012	+·024	+·034	+·006	−·014	−·006
Indus Valley and North-West Rajputana	+·015	−·054	−·007	−·018	−·047	−·025	−·020	+·009	+·038	+·035	+·001	−·022	−·008
East Rajputana, Central India and Gujarat.	+·007	−·041	+·006	−·015	−·008	−·005	+·032	+·039	+·060	+·018	+·012	−·004	+·008
Deccan	−·002	−·035	+·001	+·004	−·006	+·007	+·040	+·024	+·066	+·031	+·029	+·015	+·015
West Coast	−·006	−·029	−·007	−·002	+·009	+·005	+·040	+·026	+·055	+·018	+·062	+·025	+·016
South India	−·009	−·035	−·009	+·001	−·005	+·014	+·022	+·002	+·036	+·023	+·061	+·031	+·011

I.—The cold weather period.—The mean pressure of the Indian area was normal in amount in January and in large defect in February.

The weather was less disturbed and drier than usual in January. It was, on the other hand, somewhat more unsettled than usual in February in parts of North-Western India due to the advance of a series of six cold weather depressions across Baluchistan and Northern India during the month. They were, however, very feeble and the accompanying precipitation of the month was generally below the normal over the plains of India.

Pressure in both months was in slight to moderate relative excess in the Central Provinces, Berar, Konkan, Gujarat, Kathiawar, Cutch and Central India and in slight defect in the greater part of Bengal. The following table gives the mean pressure anomalies in different parts of India for the period :—

Area.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Baluchistan (Quetta)	+·030	+·031	+·031
Punjab	+·010	−·009	+·001
Sind	+·029	−·013	+·008
North-Western Provinces and Oudh	−·003	−·012	−·008
Rajputana	+·009	−·007	+·001

Area.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Gujarat	+·018	+·007	+·013
Central India	+·005	+·007	+·006
Central Provinces	+·003	+·005	+·004
Berar	+·012	+·021	+·017
Bihar	−·002	−·007	−·005
Chota Nagpur	−·020	−·003	−·012
Bengal	−·005	−·007	−·006
Assam	−·007	+·003	−·002
Orissa	−·004	−·001	−·003
Bombay Deccan	−·004	+·006	+·001
West Coast	−·003	+·011	+·004
Madras Deccan	−·009	−·002	−·006
Madras Coast	−·002	+·008	+·003
South India	−·011	+·003	−·004
Burma	−·003	+·012	+·005
Andamans (Port Blair)	−·001	+·032	+·016
Ceylon (Colombo)	−·008	+·014	+·003

The only important local features of the pressure conditions were a moderate excess in Sind and Cutch (and probably Baluchistan) in January and a moderate excess in Tenasserim and a moderate deficiency in Upper Sind and the South-West Punjab in February. Elsewhere the local variations were small, and on the mean of the period the only marked feature was a moderate local excess of pressure in Berar and the western districts of the Central Provinces. Comparative data are given below for stations in that area:—

Station.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Khandwa	+·023	+·020	+·022
Akola	+·012	+·019	+·016
Amraoti	+·012	+·023	+·018

Pressure in January was in large relative defect at the level of the hill stations in Northern India and in large excess in February and was hence in slight to moderate excess on the mean of the period in the case of the majority of the hill stations in the North-West Himalayas and in Baluchistan. The following gives data for eight pairs of stations:—

Hill and Plain Stations.	Vertical pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Leh and Lahore	+·019	+·118	+·059
Murree and Peshawar	−·040	+·020	−·010
Simla and Ludhiana	−·043	+·046	+·002
Ranikhet and Bareilly	−·026	+·035	+·005
Chakrata and Roorkee	−·024	+·048	+·012
Darjeeling and Dhubri	−·032	+·021	−·006
Mount Abu and Deesa	−·030	+·004	−·014
Quetta and Jacobabad	+·010	+·057	+·034

Pressure varied from the normal over the Indian area in January by amounts averaging −·005″ for Tropical India and +·002″ for Extra-Tropical India and in February it was in defect by amounts averaging −·031″ in Tropical India and −·038″ in Extra-Tropical India.

The following data for eleven meteorological provinces illustrate the local conditions in India in January and February:—

Meteorological Province.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Burma Coast and Bay Islands	−·011	+·014	+·002
Burma Inland	+·010	+·009	+·010
Assam	−·007	+·003	−·002
Bengal and Orissa	−·004	−·004	−·004
Gangetic Plain and Chota Nagpur	−·006	−·009	−·008
Upper Sub-Himalayas	+·003	−·008	−·003
Indus Valley and North-West Rajputana.	+·018	−·014	+·002
East Rajputana, Central India and Gujarat.	+·010	−·001	+·005
Deccan	+·001	+·005	+·003
West Coast	−·003	+·011	+·004
South India	−·006	+·005	−·001

II.—The hot weather period.—Weather was less disturbed and much drier than usual in March over Northern India. Three storms of the cold-weather type formed in Persia during the month, but decreased in intensity and importance as they advanced eastward and hence affected weather very slightly in Upper India. Weather in April was abnormally dry over the whole of Northern and Central India from the 1st to the 8th, and was unusually disturbed from the 9th to the 18th. North-Eastern India obtained moderate to heavy rain from the 9th to the 15th and the Peninsula from the 10th to the 18th. Both areas received light to moderate showers from the 18th to the 24th, after which dry weather with rapidly increasing temperature, set in. Drier and hotter weather than usual prevailed throughout Upper India. May was also hotter than usual except in Burma. A cyclonic storm passed into that province from the Bay on the 2nd and was followed by frequent rain during the remainder of the month.

The mean pressure of the Indian area was in moderate defect in March and May and normal in April, as is shown by the following statement:—

Month.	Mean Pressure Variation. Whole India. From data of Table I.	From data of Table II.	Tropical India.	Extra-Tropical India.
	"	"	"	"
March	−·010	−·003	−·001	−·004
April	−·001	−·004	+·002	−·010
May	−·019	−·019	−·012	−·025

Pressure averaged ·010″ in defect for the whole period.

The following table gives the corresponding temperature variation data for the whole of India:—

Month.	Mean temperature variation from data of Table II. Whole India.	Tropical India.	Extra-tropical India.
	°	°	°
March	+1·6	+0·8	+2·5
April	−1·1	−1·5	−0·7
May	+0·8	−0·4	+2·1

Temperature was in excess in March and May by amounts approximately proportional to the deficiency in the mean pressure amounts and in defect in April.

The following gives the local pressure variations or anomalies for each month and for the whole period in each of the eleven meteorological provinces:—

Meteorological Province.	Pressure Anomaly. March.	April.	May.	Period, March to May.
	"	"	"	"
Burma Coast and Bay Islands	−·016	−·014	−·005	−·012
Burma Inland	+·008	−·001	+·002	+·003
Assam	−·002	+·010	−·025	−·006
Bengal and Orissa	−·012	+·010	−·023	−·008
Gangetic Plain and Chota Nagpur	−·016	+·014	−·007	−·003
Upper Sub-Himalayas	0	+·006	−·006	0
Indus Valley and North-West Rajputana.	+·003	−·017	−·028	−·014
East Rajputana, Central India and Gujarat.	+·016	−·014	+·011	+·004
Deccan	+·011	+·005	+ 013	+ 010
West Coast	+·003	−·001	+·028	+·010
South India	+·001	+·002	+·014	+·006

The above data show that the anomalies of the pressure distribution in India were similar in character in March and May and were generally opposite in character in April but were small in amount. Hence the mean anomalies of the period were similar to those of March and May but less in amount. The chief features indicated by the mean pressure anomalies of the period were—

(1) A slight relative deficiency of pressure in North-Eastern India and Burma and a slight excess in the Andamans. These features were most persistent in Lower Burma and the Andaman Sea.

The following gives comparative data for these areas:—

Area.	Pressure Anomaly. March.	April.	May.	Period, March to May.
	"	"	"	"
Port Blair	+·007	+·011	+·023	+·014
Lower Burma	−·013	−·010	−·014	−·012
Bengal	−·014	+·008	−·024	−·010
Assam	−·002	+·010	−·025	−·006
Orissa	−·009	+·012	−·022	−·006

This feature of deficient pressure in North-Eastern India, it may be noted, was strongly marked in May and it is almost certain was influential in determining the Bay current in the rains more largely than usual to Burma, Assam and East Bengal.

(2) A relative excess of pressure in North Bombay, the Konkan, Central India, Berar, the Central Provinces and the North Deccan, most persistent and marked in Berar and the western districts of the Central Provinces.

The following gives comparative data for that area :—

Area.	Pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Central Provinces (West and Central).	+·015	—·001	+·016	+·010
Berar	+·025	+·021	+·028	+·025
Central India	+·016	—·004	+·013	+·008
Kathiawar and Cutch	+·025	—·013	+·022	+·011
Konkan	+·064	+·002	+·028	+·011
Bombay Deccan	+·009	+·005	+·023	+·012

This feature was well marked in March, but tended to disappear in April. It came into great prominence in May. As shown later, it was chiefly a product of the temperature conditions of the Indian area during the period.

A similar contrast of the local anomalies (*viz.*, the contrast between the local excess of pressure in the west and north-west of the Peninsula and the local deficiency in North-Eastern India) obtained in the hot weather periods of 1898, 1897, 1896, 1895, 1894, 1892, 1890 and 1880.

(3). A local deficiency of pressure in Sind and the Punjab. It covered a very small area and was very feebly marked in March, but increased in extent and importance with the continued hot and dry weather of April and May, and was one of the more important features of the relative distribution of pressure in May.

The following gives data in illustration :—

Area.	Pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Punjab	+·003	—·003	—·019	—·006
Sind	+·010	—·020	—·010	—·007

This feature, it may be noted, does not appear to have extended into Baluchistan or Persia, an illustration of an important fact that the persistent and abnormal features of the pressure conditions in the hot weather are, as a rule, restricted to India and do not affect the plateau of Central Asia or the Persian area.

(4). An interesting feature of the pressure distribution of the period was the vertical pressure anomalies. They were positive and large on the mean of the period for the hill stations in North-Western India. They were moderate to large in March, small and irregular in April and large in May.

The following gives the vertical pressure anomalies as determined from the pressure variations of nine pairs of stations in Northern and Central India :—

Hill and plain stations.	Vertical pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Quetta and Jacobabad	+·035	+·032	+·043	+·037
Leh and Lahore	+·063	—·013	+·075	+·042
Murree and Peshawar	+·007	—·007	+·058	+·019
Simla and Ludhiana	+·042	—·001	+·047	+·029
Ranikhet and Bareilly	+·038	—·006	+·025	+·019
Chakrata and Roorkee	+·048	—·005	+·045	+·029
Darjeeling and Dhubri	—·012	—·033	+·035	— 003
Mount Abu and Deesa	+·015	0	—·021	—·002
Pachmarhi and Seoni	+·008	—·017	+·003	—·002

A comparison of the vertical pressure anomalies of the period with the temperature variations will show that excess or positive values of the one accompanied positive values of the other, and that they were roughly proportional. This is shown more clearly by the following statement :—

Month.	Mean vertical pressure anomaly, (Murree, Simla and Ranikhet). (*a*).	Mean temperature variation, (North-Western Provinces and Punjab). (*b*).	Ratio of (*a*) to (*b*).
	"	°	
March	+·029	+2·8	·01
April	—·005	—0·6	·01
May	+·043	+3·6	·01
Mean of period	+·022	+1·9	·01

The following gives a fuller statement of the abnormal features of the pressure conditions of May.

The mean pressure of the Indian area in May was slightly below the normal ('019"). Pressure, was relatively to the general conditions, more or less in defect in North-Eastern India and Burma and in Upper India and was in

excess in the remainder of India. This contrast of conditions between Upper and North-Eastern India and Western India, it may be noted, almost invariably obtains in years of strongly marked hot weather conditions—more especially after milder winters than usual in the Western Himalayas. The local deficiency was most marked in Bengal and the West Punjab, and the local excess greatest in the western half of the Peninsula. The following gives data for stations in the areas of greatest excess and deficiency of pressure :—

	Station.	Pressure anomaly in May.		
		1899.	1898.	1897.
		"	"	"
Bengal area of deficient pressure.	Saugor Island	—·040	—·013	—·010
	Chittagong	—·031	—·008	+·001
	Narayanganj	—·029	—·009	—·005
	Mymensingh	—·030	—·012	—·008
	Dhubri	—·033	—·017	—·004
Punjab area of deficient pressure.	Peshawar	—·045	—·002	+·011
	Dera Ismail Khan	—·041	?	—·017
	Mooltan	—·042	+·008	—·027
	Khandwa	+·033	+·023	+·021
Western India area of excessive pressure.	Ratnagiri	+·034	+·027	+·033
	Goa	+·040	+·034	+·034
	Mangalore	+·033	+·013	+·018
	Coimbatore	+·029	+·005	+·007

The pressure variations in May 1887, 1894, 1895, 1896, 1897 and 1898 were similar in general character to those of the corresponding month of the present year, the chief difference being that they were slightly more marked in the present year than in those preceding years. The large local deficiency in the West Punjab was a special feature of the year.

The position of the trough of low pressure varied very considerably during the month. At the end of the month its axis was defined by the stations of Calcutta, Hazaribagh, Allahabad, Sirsa and Dera Ismail Khan, and was hence further north than usual.

III.—The south-west monsoon period.—The south-west monsoon currents were established in the Arabian Sea slightly later than usual. They began to give heavy rain on the Konkan Coast from the 10th and 11th, and were of moderate strength until the 22nd, when they fell off considerably in strength and withdrew from the central parts of the country where they were replaced by dry westerly winds. The humid current advanced very rapidly across the north of the Peninsula, Central India and Rajputana, and these districts received general light rain from the 12th to the 14th. In the East Punjab the rains commenced feebly on the 15th.

The Bay current was established at the head of the Bay on the 11th and 12th, and advanced rapidly up the Gangetic Plain as far as the central districts of the North-Western Provinces on the 13th and 14th. A further advance occurred into the western districts of the North-Western Provinces, North-East Rajputana and the East Punjab on the 21st. These districts received favourable rain during the remainder of the month.

The following gives the chief features of the pressure conditions during the period from July to September :—

(1) The advance of the monsoon currents in June temporarily reversed the pressure anomalies, as is usually the case, and the pressure anomalies of June were hence generally opposite in sign to those of May. The following give comparative data for the eleven meteorological provinces in illustration :—

Meteorological Province.	Pressure anomaly.		
	May.	June.	Change, May to June.
	"	"	"
Burma Coast and Bay Islands	—·005	+·021	+·026
Burma Inland	+·002	+·024	+·022
Assam	—·025	+·004	+·029
Bengal and Orissa	—·023	+·013	+·036
Gangetic Plain and Chota Nagpur	—·007	—·00	0
Upper Sub-Himalayas	—·006	—·014	—·008
Indus Valley and North-West Rajputana	—·028	—·034	—·006
East Rajputana, Central India and Gujarat	+·011	—·014	—·025
Deccan	+·013	—·002	—·015
West Coast	+·028	—·004	—·032
South India	+·014	+·005	—·009

The Arabian Sea current was abnormally feeble during the remainder of the season and gave no general heavy rain over the area usually dependent upon it. The northern districts including Sind, East and Central Rajputana, the western states of Central India, Cutch, Kathiawar and Gujarat received practically no rain in July, August or September. The Konkan Coast districts had occasional light rain, and Berar, the Deccan and Central Provinces light showers. This current hence failed entirely as a rain-giving current in these three months.

The Bengal current was slightly stronger than usual in July and practically of normal strength in August and September. It was determined more largely than usual towards Burma and North-Eastern India, more especially to

Bihar and the North-Western Provinces in July and to Bengal, Assam and Burma in August and September. These provinces all received favourable rain. The rains ceased very considerably earlier than usual in the East Punjab and the western districts of the North-Western Provinces.

The pressure conditions accompanying these abnormal features of the monsoon were strongly marked.

(2) Pressure was in slight excess in the Indian area from June to August, and in considerable excess in September. The following gives data:—

Month.	Mean variation of pressure from normal.		
	Extra-Tropical India.	Tropical India.	Whole India.
	"	"	"
June	−·003	+·011	+·004
July	+·002	+·023	+·013
August	+·001	+·006	+·004
September	+·037	+·040	+·039

(3) The pressure anomalies were very persistent from July to September, and were similar in general character to the anomalies of the month of May and closely related to the distribution of rainfall.

Pressure was throughout the period from July to September locally in defect in Northern India and Burma, the deficiency on the whole decreasing in amount in the western half of the area and increasing in the eastern half.

The following gives data in illustration:—

Area.	Pressure anomaly.					
	June.	July.	August.	September.	Period, June to September.	Period, July to September.
	"	"	"	"	"	"
Burma	+·022	−·040	−·033	−·016	−·017	−·030
Bengal	+·009	−·023	−·028	−·019	−·015	−·023
Orissa	+·031	+·009	−·028	+·008	+·005	−·004
Bihar	−·007	−·026	−·036	−·022	−·020	−·025
Chota Nagpur	+·003	−·004	−·009	+·010	0	−·001
North-Western Provinces and Oudh.	−·014	−·017	−·010	−·011	−·013	−·013
Punjab	−·021	−·033	−·010	−·014	−·020	−·019

Pressure was, on the other hand, in relative excess over the remainder of the Indian land area except South India. The excess was greatest in the area in which the drought was most severe, including Berar, Gujarat, the Central Provinces, the Bombay Deccan, Kathiawar and South-West Rajputana. The following gives data:—

Area.	Pressure anomaly.				
	June.	July.	August.	September.	Period, June to September.
	"	"	"	"	"
Rajputana	−·016	+·024	+·047	+·023	+·020
Central India	−·009	+·022	+·026	+·023	+·016
Central Provinces	+·002	+·031	+·021	+·033	+·022
Berar	−·001	+·048	+·041	+·041	+·032
Gujarat	−·013	+·046	+·061	+·041	+·034
West Coast	−·004	+·034	+·026	+·017	+·018
Bombay Deccan	−·013	+·041	+·037	+·022	+·022
Madras Deccan	+·001	+·028	+·019	+·009	+·014
Madras Coast	+·015	+·017	−·007	+·003	+·007
Mysore	−·012	+·014	+·007	−·007	+·001
South India	0	+·006	−·003	−·010	−·002

The following gives data for the period July to September for stations at which the excess was absolutely greatest:—

Station.	Pressure anomaly.			
	July.	August.	September.	Mean of period, July to September.
	"	"	"	"
Bhuj	+·049	+·075	+·049	+·058
Deesa	+·042	+·062	+·043	+·049
Rajkot	+·046	+·060	+·044	+·050
Indore	+·050	+·053	+·046	+·050
Khandwa	+·048	+·050	+·050	+·049
Amraoti	+·050	+·040	+·042	+·044
Akola	+·046	+·043	+·039	+·042
Malegaon	+·041	+·042	+·032	+·038
Surat	+·043	+·048	+·037	+·043

(4) The vertical pressure anomalies were throughout the period positive in Northern India and were on the average of the whole period moderate in amount. It is noteworthy that although the anomalies were positive in the

drought area in Berar they were negative in the drought area in the Central Provinces and Rajputana as shown by the data for Mount Abu and Deesa, and Pachmarhi and Hoshangabad. Probably the data for Chikalda and Buldana are not correct. The following gives data for ten pairs of stations :—.

Pair of Stations.	Vertical Pressure Anomaly.				
	June.	July.	August.	September.	Period, June to September
	"	"	"	"	"
Leh and Lahore	+·016	+·031	+·033	+·018	+·025
Murree and Peshawar	+·014	+·012	+·006	—·001	+·008
Quetta and Jacobabad	+·027	+·047	+·013	+·010	+·024
Simla and Ludhiana	+·005	+·029	+·031	+·022	+·022
Darjeeling and Dhubri	+·002	+·041	+·055	+·006	+·026
Ranikhet and Bareilly	+·010	+·006	+·023	+·020	+·015
Chakrata and Roorkee	+·014	+·028	+·029	+·024	+·024
Mount Abu and Deesa	—·016	—·033	—·012	—·039	—·025
Pachmarhi and Hoshangabad.	—·007?	—·023 ?	—·019 ?	?	?
Chikalda and Buldana	+·007	—·002	+·003	+·007	+·004

IV.—The retreating south-west monsoon.—The south-west monsoon currents in the Bay withdrew earlier han usual from the Bay area. In the first week of October weather was showery in Burma and Southern India and fine and dry elsewhere. There were two periods of stormy weather in the Bay. The first disturbance developed into a cyclonic storm of moderate intensity and advanced northwards into Orissa and Bengal to which it gave a heavy downpour of rain from the 14th to the 16th. The Madras Coast districts received frequent moderate rain from the 19th to the 31st. The second disturbance of the month in the Bay was diffused in character. It gave a moderate burst of rain to Bengal, Orissa and Assam from the 27th to the 29th.

A disturbance in the Bay in the second week of November gave moderate to heavy rain in Southern India from the 12th to 14th. With this exception the month was unusually dry in the Peninsula. Several shallow depressions advanced into Upper India from Baluchistan. They gave cloud and light rain or snow in the Upper India Hills.

A feeble disturbance gave rain to Ceylon and the coast-districts of Southern India from the 10th to the 13th or 14th December. This was the last rainfall received from the retreating south-west monsoon in Southern India.

Several depressions advanced from Persia and Baluchistan into Upper India in December. They were all of little importance except the last of the series. This formed over the Persian Gulf on the 27th, passed through Baluchistan on the 28th and across Upper India on the 29th and 30th.

It gave some rain in the Punjab Plains and a moderately heavy fall of snow in the Punjab and Kashmir Himalayas.

The chief feature of the period was the scanty rainfall over the greater part of the Peninsula. This accompanied in October a determination of the storms and rainfall to Bengal, and in November the early withdrawal of the monsoon currents to the extreme south and south-east of the Bay.

The following table gives the pressure anomalies in the eleven meteorological provinces for each month of the period and for the whole period :—

Meteorological Provinces.	Pressure Anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Burma Coast and Bay Islands	+·010	+·017	+·008	+·012
Burma Inland	+·017	—·019	+·012	+·003
Assam	+·019	+·006	—·003	+·007
Bengal and Orissa	+·015	+·008	0	+·008
Gangetic Plain and Chota Nagpur.	+·005	—·014	—·018	—·009
Upper Sub-Himalayas	0	—·024	—·020	—·015
Indus Valley and North-West Rajputana.	+·001	—·029	—·028	—·019
East Rajputana, Central India and Gujarat.	—·016	—·018	—·010	—·015
Deccan	—·003	—·001	+·009	+·002
West Coast	—·016	+·032	+·019	+·012
South India	—·011	+·031	+·025	+·015

The following gives the chief abnormal features of the period :—

(1) Pressure was in moderate excess over the whole Indian area in October and November and normal in amount in December. An important feature was an excess of about ·02" in Tropical India, relative to Extra-Tropical India. The following gives data :—

Area.	Mean Variation of Pressure from Normal.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Extra-Tropical India	+·032	+·011	—·013	+·010
Tropical India	+·025	+·032	+·010	+·022
Whole India	+·029	+·022	—·002	+0·16

(2) Pressure was, as stated above, in local excess in the Bay, the Andaman Sea, Burma, Bengal and Assam on the mean of the period from October to December. This feature is shown by the data of the districts given below:—

Area.	Pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Port Blair	+·007	+·017	+·022	+·015
Lower Burma	+·014	+·018	+·007	+·013
Bengal	+·016	+·007	−·001	+·007
Assam	+·019	+·006	−·003	+·007
Orissa	+·013	+·012	−·001	+·008
Chota Nagpur	+·014	+·002	−·001	+·005

The local excess in that area was slight in amount, but was persistent and was evidently directly related to the early withdrawal of the monsoon current from the Bay.

(3) Pressure was in local excess in the Peninsula, the Central Provinces and Berar during the months of November and December. It was, on the other hand, in relative defect over the greater part of that area in October, in which month the east and south of the Peninsula obtained fair rain from the retreating monsoon. These features are indicated by the following comparative data:—

Area.	Pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Central Provinces	+·004	−·005	+·007	+·002
Berar	+·005	+·003	+·014	+·007
West Coast	−·016	+·032	+·019	+·012
Bombay Deccan	−·016	+·010	+·017	+·004
Madras Coast	−·002	+·038	+·038	+·022
Madras Deccan	−·010	+·013	+·010	+·004
South India	−·018	+·039	+·032	+·018

(4) Pressure was in slight to moderate relative defect throughout the period in North-Western and Central India. The deficiency increased steadily in amount from October to December and was considerable in Upper India in December.

Area.	Pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Punjab	−·003	−·029	−·021	−·018
Sind	+·009	−·019	−·031	−·014
Rajputana	+·016	−·022	−·013	−·017
Central India	−·010	−·022	−·006	−·013
North-Western Provinces and Oudh.	0	−·025	−·023	−·016
Bihar	+·006	−·008	−·008	−·003

(5) A noteworthy feature of the period was the slight to considerable excess of pressure in the Persian area, and South Arabia which was apparently related to conditions in Southern Europe and Asia Minor and not to conditions in India:—

Station.	Variation of pressure from normal.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Baghdad	+·060	+·012	+·041	+·038
Bushire	+·035	+·017	+·012	+·021
Aden	+·039	+·014	−·014	+·013

(6) The vertical pressure anomalies were generally positive and small to moderate in amount throughout the period. They were hence of considerable importance, indicating the probability of deficient winter rainfall in North-Western India. The following gives the vertical pressure anomalies as determined from the pressure variations of eight pairs of stations:—

Pairs of stations.	Vertical pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Quetta and Jacobabad	−·005	+·020	+·0301	+·015
Murree and Peshawar	+·027	+·048	+·042	+·039
Simla and Ludhiana	+·015	+·029	+·014	+·019
Ranikhet and Bareilly	+·018	+·023	+·020	+·020
Darjeeling and Dhubri	+·001	+·014	+·013	+·009
Mount Abu and Deesa	−·009	−·008	+·018	0
Leh and Lahore	+·013	+·021	+·009	+·014
Chakrata and Roorkee	+·029	+·032	+·024	+·028

The year.—The mean pressure of the year was ·004″ above the normal. Pressure was lower than the mean of the year in the Punjab, the North-Western Provinces, Bihar, Bengal and Assam and normal in Burma. The

following gives mean variation data of the year for these areas :—

Province or Area.	Variation from normal of mean 8 A. M. pressure of year.	Pressure anomaly of year.
	"	"
Upper Sind	—·010	—·014
Punjab	—·008	—·012
North-Western Provinces and Oudh	—·005	—·009
Bihar	—·006	—·010
Bengal	—·004	—·008
Assam	—·002	—·006
Lower Burma	0	—·004

Pressure was above the normal of the year in the remainder of India, as shown below :—

Province or Area.	Variation from normal of mean 8 A.M. pressure of year.	Pressure anomaly of year.
	"	"
Baluchistan	+·018	+·014
Lower Sind	+·012	+·008
Rajputana	+·009	+·005
Central India	+·009	+·005
Gujarat	+·011	+·007
Berar	+·026	+·022
Central Provinces	+·016	+·012
Chota Nagpur	+·005	+·001
Orissa	+·008	+·004
Bombay Deccan	+·015	+·011
Madras Deccan	+·010	+·006
West Coast	+·016	+·012
Madras Coast	+·014	+·010
South India	+·008	+·004

The excess was more than ·02″ in three areas for which data are given below :—

Area.	Station.	Variation from normal of mean 8 A.M. pressure of year	Pressure anomaly, of year.
		"	"
Berar and the Central Provinces.	Amraoti	+·029	+·025
	Khandwa	+·028	+·024
	Indore	+·025	+·021
	Akola	+·023	+·019
	Saugor	+·021	+·017
Konkan	Goa	+·026	+·022
	Ratnagiri	+·023	+·019
	Bombay	+·021	+·017
Circars	Cocanada	+·024	+·020

The chief features of the pressure conditions of the year were the contrast between the increased pressure in the Peninsula and Central India and the decreased pressure in Northern India and the contrast between the deficient pressure in the dry season and the increased pressure in the wet season. Data for the latter are given below :—

Area.	Variation from normal of mean pressure.	
	January to May.	June to December.
	"	"
Tropical India	—·009	+·021
Extra-Tropical India	—·015	+·010
Whole India	—·013	+·016

The following gives the variations of the mean pressure of Extra-Tropical and Tropical India and also of the whole of India from the normal, month by month, during the year 1899, for convenient reference :—

Month.	Variation from normal of mean pressure in		
	Extra-Tropical India from Table II.	Tropical India from Table II.	Whole India from Table II.
	"	"	"
January	+·002	—·005	—·003
February	—·038	—·031	—·035
March	—·004	—·001	—·003
April	—·010	+·002	—·004
May	—·025	—·012	—·019
June	—·003	+·011	+·004
July	+·002	+·023	+·013
August	+·001	+·006	+·004
September	+·037	+·040	+·039
October	+·032	+·025	+·029
November	+·011	+·032	+·022
December	—·013	+·010	—·002
Whole year	—·001	+·008	+·004

The following gives the progressive variation of the mean annual pressure of the past 25 years for the Indian land area :—

Year.	Number of stations.	Mean anomaly.	Progressive variation.
		"	"
1875	33	—·007	
1876	35	—·007	0
1877	59	+·032	+·039
1878	65	+·002	—·030
1879	81	—·014	—·016
1880	93	—·003	+·011
1881	93	+·002	+·005
1882	93	—·010	—·012
1883	105	—·005	+·005
1884	107	+·010	+·015
1885	113	+·014	+·004
1886	118	—·003	—·017
1887	117	—·006	—·003
1888	109	+·011	+·017
1889	76	+·004	—·007
1890	77	—·009	—·013
1891	72	+·010	+·019
1892	72	—·022	—·032
1893	66	—·001	+·021
1894	66	—·012	—·011
1895	66	+·003	+·015
1896	68	—·001	—·004
1897	74	—·005	—·004
1898	74	—·018	—·013
1899	51	+·004	+·022

The following gives a statement of the cyclones and more important cyclonic storms which affected the Indian area during the south-west monsoon of 1899, drawn up in the form adopted in the annual reports of the meteorology of India for the year 1886—1890 :—

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	April	28th April to 2nd May.	·37"	Cyclonic storm of considerable intensity.	This storm was generated in the Andaman Sea in front of the first temporary advance of humid south-west winds over the south-east of the Bay. It marched slowly northwards towards the Burma Coast, the centre passing over Diamond Island on the 1st. It continued to advance very slowly on the 2nd, and broke up as a distinct cyclonic circulation against the South Arakan Hills before the morning of the 3rd. Apparently it was a concentrated disturbance of considerable intensity and occasioned a moderate to heavy burst of rain over Burma. The strongest winds experienced in the storm area were of force 9 by the *S. S. Shahzada.*
2	August.	7th to 13th.	·27"	Cyclonic storm of moderate intensity.	This storm was formed between the Andamans and the Burma Coast on the 7th. It drifted along a west by north track across the Bay and passed inland across the Orissa Coast about noon on the 10th. It thence marched through the Central Provinces on the 11th into the eastern states of Central India on the 12th, where it filled up during the succeeding 24 hours. It was a storm of moderate intensity and the strongest winds experienced during its existence over the Bay did not exceed 9 in force.
3	August.	26th to 31st.	·15"	Cyclonic storm of feeble intensity.	This storm originated in the north of the Bay of Bengal on the 26th and advancing along the usual track of cyclonic storms in August passed into Orissa on the morning of the 28th. It then recurved and marching north-eastwards passed into Bihar on the 30th, where it broke up slowly during the next 36 hours. This disturbance was throughout its existence feeble and of little importance.
4	September.	8th to 16th	·06"	Cyclonic storm of feeble intensity.	This storm formed off the coast of Arakan on the 8th. It drifted along a westerly track during the next three days, developing at the same time, and crossed the Ganjam Coast between Gopalpur and Vizagapatam on the morning of the 12th. It passed through the Central Provinces on the 13th into the central districts of the North-Western Provinces on the 14th. It then recurved rapidly to east and advanced into Bihar where it filled up on the 17th. It was a feeble disturbance, the strongest winds in the Bay during its existence being only of force 7. It however gave a much-needed burst of rain to the districts affected by it.

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
5	September.	19th to 25th.	·27"	Cyclonic storm of moderate intensity.	This storm was generated in the north of the Bay nearly midway between the Arakan and Ganjam Coasts on the 19th and 20th. It travelled northwards passing inland across the Sunderbans near Saugor Island on the morning of the 23rd. It continued to drift in the same direction during the next 48 hours and broke up before the morning of the 25th in the Sikkim Himalayas to which it gave an exceptionally heavy burst of rain.
					The strongest winds in the Bay during its existence were of force 8.
6	October.	12th to 16th.	0·17"	Feeble Storm.	This storm formed in the south-west of the Bay off the South Madras Coast on the 11th and 12th. It intensified slowly and marching northwards parallel to the coast on the 13th and 14th passed inland across the Bengal coast during the 15th. It thence passed into East Bengal on the 16th at 8 A.M. of which day it was central a little to the west of Narayanganj. It broke up rapidly during the day.
					The storm formed much further south and west than is ordinarily the case in October and was noteworthy for the heavy burst of rain which accompanied it, more especially in Orissa. The vessels within the storm area in the Bay experienced winds of force 8 to 9.

The following is a similar statement of the only important land-formed depression generated in the plains of Bengal during the south-west monsoon of 1899:—

No.	Month	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	July.	12th to 15th.	·23"	Land-formed depression of moderate intensity.	This land-formed depression was generated in Deltaic Bengal on the 13th. It drifted very slowly north-westwards during the next two days into the central districts of Bengal and Chota Nagpur where it filled up during the day. It occasioned general moderate to heavy rain over North-Eastern India.

Winds.

The mean direction of the wind and the mean diurnal movement of the air, as measured by Robinson anemometers, are given for all second class stations in Table II in each monthly review. The normal values are also stated for the sake of ready comparison. The normal data of these elements, utilized in Table II of the monthly weather reviews of the year 1899, will be found in a collected form in Tables XI and XII of the Annual Summary for 1896 (pages 638—644). The mean 8 A.M. wind directions for each month are laid down in the first chart in each monthly review. They are calculated in the usual manner by Lambert's formula from the 8 A.M. wind data given in Table I in each monthly review. As a general rule, the mean 8 A.M. wind directions vary little from the mean wind directions (calculated from the 10 and 16 hours wind data) in Table II of each monthly review, but in some cases and at certain seasons of the year they differ very considerably.

The chief features of the air movement over India in 1899, have been described in the monthly reviews of the year. The following gives a summary of the most important features for each period:—

I. The cold weather period.—This period was less disturbed than usual in Northern India in January. There were several cold weather storms in February but they were feeble and the accompanying air movement was hence considerably less than usual in these storms.

The winds at the hill stations in Northern India were generally considerably above their normal strength in January, but varied irregularly from the normal in February, though on the mean of the month they were practically of about normal intensity—an illustration of the fact that the steady winds of finer weather than usual in this season are stronger than the unsteady winds in periods of more disturbed weather than usual. The following gives data in illustration:—

Station.	Mean daily air movement in miles.					
	Actual, January.	Normal, January.	Percentage variation from normal, January.	Actual, February.	Normal, February.	Percentage variation from normal, February.
Chakrata . .	201	123	+63	232	134	+73
Ranikhet . .	72	44	+64	81	57	+42
Darjeeling . .	?	88	?	121	137	—12
Mount Abu . .	136	119	+14	152	140	+ 9
Pachmarhi . .	82	78	+ 5	85	98	—13
Chikalda . .	152	123	+24	189	148	+28

Winds were on the mean of the month somewhat stronger than usual in January and below their normal strength in February in the plains of Northern India and were on the mean of the period generally slightly below their normal strength, as is shown by the following data :—

Area.	Mean wind steadiness during cold weather period, January and February.			Mean daily air movement in miles during cold weather period, January and February.		
	Actual percentage.	Normal percentage.	Variation from normal.	Actual.	Normal.	Percentage variation from normal.
Bengal . . .	40	30	+10	123	114	+ 8
Bihar . . .	45	47	— 2	66	77	—14
Chota Nagpur .	50	52	— 2	168	154	+ 9
North-Western Provinces.	40	31	+ 9	77	62	+24
Punjab . .	36	22	+14	49	54	— 9
Rajputana . .	43	30	+13	102	149	—32

The chief feature of the air movement in February was the frequent occurrence of southerly winds on the Bengal coast, due to the passage eastwards of cold weather storms across Bengal, rather than to the establishment of normal hot weather conditions.

Winds were very irregular in direction on the mean of the period in Berar, Central India and the Central Provinces, although they were practically of normal steadiness. The following gives data of steadiness in illustration :—

Area.	Percentage of mean wind steadiness.			
	January.	February.	Mean of period, January and February.	Variation from normal of period, January and February.
Berar	32	21	27	+4
Central Provinces . .	29	25	27	0

The air movement in Bombay, the Madras coast, and Mysore was practically normal in January and slightly stronger than usual in February. It was, on the other hand, somewhat stronger in both months in the Deccan.

The following gives comparative data showing the variations of the intensity of amount of the diurnal air movement from the normal in the Peninsula during this period :—

Area.	Mean daily air movement in miles.				
	Actual, January.	Actual, February.	Mean actual of period, January and February.	Mean normal of period, January and February.	Percentage variation from normal of period, January and February.
Central Provinces .	91	104	98	96	+ 2
Berar . . .	120	140	130	117	+11
Deccan . . .	155	174	165	149	+11
Madras Coast . .	159	147	153	153	0
Mysore . . .	143	131	137	142	— 4
Konkan . . .	168	165	167	163	+ 2

The following gives a statement of the mean wind force and its variation from the normal in the Bay of Bengal and Arabian Sea :—

Area.	Mean daily force of wind (Beaufort's notation).					
	Actual, January.	Variation from normal, January.	Actual, February.	Variation from normal, February.	Mean actual of period, January and February.	Variation from normal of period, January and February.
Bay of Bengal . .	3·3	+0·3	2·6	+0·1	3·0	+0·2
Arabian Sea . .	3·8	+0·5	3·0	0	3·4	+0·3

II. The hot weather period.—Weather was on the whole less disturbed than usual in March and May in the Indian area, but was unusually disturbed in North-Eastern India and the Peninsula in April.

The hot weather conditions were throughout more strongly marked than usual during the period in the Punjab, Sind and Rajputana. Temperature was on the mean of the month of May considerably to largely in excess in the Punjab, Upper Sind and Rajputana. The chief features of the air movement of the period in Northern and Central India were :—

1st.—Winds were slightly steadier and much more westerly than usual (more especially in March and May) in the interior of Bengal, and, as usual under those conditions, less westerly at the coast stations. They were somewhat stronger than usual in March and of normal

strength in April and May. The following gives data showing the actual deflection :—

Station.	Westerly deflection.			
	March.	April.	May.	Mean of period, March to May.
	°	°	°	°
Chittagong	+ 2	− 5	+ 4	0
Calcutta	+22	+25	+ 7	+18
Saugor Island	−11	− 9	−14	−11
False Point	−36	−16	− 6	−19

2nd.—Winds were stronger than usual in the North-Western Provinces throughout the period, more especially in March and May. They were on the mean of the period also somewhat steadier than usual.

3rd.—Winds were on the mean of the period somewhat feebler but less variable than usual in Chota Nagpur and the Punjab. In Bihar they were not only light but also very variable.

4th.—Winds were also, on the whole, somewhat feebler and more westerly than usual in Rajputana.

5th.—Winds from northerly directions were much more frequent than usual in May at the hill stations in Northern India.

The following gives data showing the percentage variation of the air movement, month by month, from the normal during this period in Northern and Central India :—

Area.	Percentage variation from normal of mean daily air movement in		
	March.	April.	May.
Bengal	+20	− 1	− 6
Bihar	−12	−30	−30
Chota Nagpur	+15	−13	−15
North-Western Provinces	+39	+25	+35
Punjab	− 4	−13	+ 4
Rajputana	−22	−35	−17

The preceding data indicate that the air movement over the greater part of Northern India during the whole hot weather period was less vigorous than usual. The most important variation of the direction of the air movement was in the interior of Bengal where the westerly element in the winds was abnormally strong.

The following gives the chief features of the air movement in the Peninsula :—

1st.—Winds were of normal strength in Berar and the Central Provinces. They were, on the whole, somewhat more northerly than usual in March and more westerly in April and May. They were abnormally unsteady in March.

2nd.—Winds were slightly stronger than usual in the Bombay and Madras, Deccan, Berar and Mysore.

3rd.—Winds were throughout the period practically normal in strength and direction in the Madras and Bombay coast districts.

The following gives data showing the percentage variation of the air movement from the normal, month by month, in the Peninsula :—

Area.	Percentage variation from normal of mean daily air movement in		
	March.	April.	May.
Berar	− 2	+12	+11
Central Provinces	− 9	+15	− 3
Bombay Deccan	+ 2	+ 9	+20
Madras Deccan	+13	+24	+26
Mysore	+16	+ 6	− 3
West Coast	− 8	−10	−19
Madras Coast	−11	−11	− 9

The following gives mean data for the winds in the Bay of Bengal and Arabian Sea for the period :—

Area.	Variation of mean daily force of wind (Beaufort's notation) in			
	March.	April.	May.	Period, March to May.
Bay of Bengal	0	0	+0·7	+0·2
Arabian Sea	−0·2	0	−0·4	−0·2

III.—The south-west monsoon period.—The Arabian Sea current was slightly delayed and was not established on the Malabar coast until the 5th and the Konkan coast until the 11th of June. It advanced with great rapidity into the interior and gave general rain to the west of the Central Provinces and Central India on the 12th and to the South-East Punjab on the 13th. The advance of the current over the Arabian Sea was made somewhat more quickly than usual. The weather was very squally in front of the advancing current, but this irregular disturbance did not develop, as is usually the case, into a cyclonic storm. The south-west monsoon current was established in the Bay during the second week of June.

The first burst of the Bombay monsoon current was not so strong as usual and the current began to decrease in strength from the 22nd. It was unusually feeble during the remainder of the period and gave occasional showers but no general heavy rain. The Bay current was strong in July and fell below its normal strength in August and September. It was determined more largely than usual towards Burma and North-Eastern India.

The comparative data in the table below based upon the anemometric observations of four coast and four inland stations under the influence of the two currents give an approximate estimate of the strength of the air movement of the two branches of the monsoon currents :—

Month.	Percentage variation from normal of mean daily air movement.			
	Bay of Bengal current.		Bombay current.	
	Four coast stations.	Four inland stations.	Four coast stations.	Four inland stations.
June	−1	+ 9	−12	+ 1
July	+1	−22	− 7	+18
August	−2	− 9	−20	+19
September	−3	− 8	−12	+10
Mean of period	−1	− 8	−13	+12

The data of the preceding table indicate that the Bay current as measured by the air movement at selected coast and inland stations was very slightly weaker than usual. The Arabian Sea current as gauged by the wind data of the Sind, Konkan and Malabar coast stations was considerably below its normal strength.

The following table gives corresponding data for the steadiness of the two currents in the coast districts of India :—

Month.	Variation from normal of percentage of mean wind steadiness.			
	Bay of Bengal Current.		Bombay Current.	
	Four coast stations.	One inland station.	Three coast stations.	Four inland stations.
June	+13	+20	+7	+ 3
July	+14	−14	+5	+12
August	+ 2	−14	+1	+11
September	+10	− 4	+3	+12
Mean of period	+10	− 3	+4	+10

The winds on the Sind and Konkan coasts were, as shown by the data, considerably steadier than usual.

The comparative data given in the following table of the mean actual and normal force of the winds derived from the meteorological information contained in the logs of vessels navigating the Indian seas indicate that the air movement was below the normal to a moderate extent throughout the period in the Arabian Sea, and was normal in the Bay of Bengal on the mean of the whole period. The actual variations are chiefly derived from vessels following four or five tracks in these seas, and hence do not necessarily indicate a variation common to the whole area. They, however, almost certainly establish that the current in the Arabian Sea was slightly below its normal strength throughout the period :—

Month.	Mean daily force of wind (Beaufort's notation) in the					
	Bay of Bengal.			Arabian Sea.		
	Actual.	Normal.	Variation from normal.	Actual.	Normal.	Variation from normal.
June	4·0	4·0	0	4·1	4·5	−0·4
July	4·1	4·0	+0·1	4·3	4·6	−0·3
August	4·0	4·0	0	3·6	4·3	−0·7
September	3·5	3·7	−0·2	3·0	3·5	−0·5
Mean of period	3·9	3·9	0	3·8	4·2	−0·5

The following gives a summary of the more important features of the mean air movement from the normal during the month of June :—

(*a*) Winds were more westerly than usual at Port Blair, but were less westerly than the normal in Lower Burma.

(*b*) Winds were above their normal strength in Bengal and lighter than usual in Orissa. They were, however, approximately normal in direction.

(*c*) Winds contained a strong westerly component in the Gangetic Plain and were both stronger and steadier than usual.

(*d*) Winds were more directly from the south than usual on the West Coast.

(*e*) Winds were nearly westerly in direction in the Deccan and steadier than usual.

The most noteworthy features of the period July to September were :—

(1) Winds were more westerly than usual at Port

Blair and in Burma and North-Eastern India. Data in illustration are given for seven stations :—

Station.	Increased westing.			
	July.	August.	September.	Mean of period, July to September.
	°	°	°	°
Port Blair	+ 21	+19	+18	+19
Rangoon	+ 18	+ 6	+ 3	+ 9
Diamond Island	+ 9	+ 5	+ 9	+ 8
Chittagong	+ 24	+11	+ 4	+13
Calcutta	+ 41	+ 5	+57	+34
Darbhanga	+ 13	+15	+21	+16
Allahabad	+158	+56	+54	+89

(2) Winds were stronger than usual in the Andamans, Bengal and Chota Nagpur, and below their normal strength in Burma and Bihar throughout the period, as shown below :—

Area.	Percentage variation from normal of mean daily air movement in			
	July	August.	September.	Mean of period, July to September
Port Blair	+41	+32	+11	+28
Burma	− 2	− 8	− 6	− 5
Bengal	+13	+ 5	0	+ 6
Bihar	−58	−56	−51	−55
Chota Nagpur	+16	+ 4	+ 2	+ 7

(3) Winds were above their normal intensity over the whole area dominated by the Bombay current except locally in Hyderabad and the Bombay coast districts :—

Area.	Percentage variation from normal of mean daily air movement in			
	July.	August.	September.	Mean of period, July to September.
Punjab	+ 9	− 2	+ 5	+ 4
Rajputana	+47	+43	+27	+39
Central Provinces	+17	+15	+ 3	+12
Berar	+33	+52	+17	+34
Hyderabad Deccan	−13	−20	−34	−22
Bombay Deccan	+12	+ 2	+ 1	+ 5
Bombay Coast	− 9	−27	−11	−16

(4) Winds were more northerly than usual over the greater part of that area as shown below :—

Station.	Northerly deflection.		
	July.	August.	September.
	°	°	°
Kurrachee	+ 4	+ 5	+ 8
Deesa	+19	+19	+17
Nagpur	+18	+17	+28
Bombay	+ 4	+ 1	+28

This increased northing of the winds was directly due to the abnormal features of the pressure conditions, the chief of which were increased pressure, greatest in the area of greatest drought (Rajputana, Gujarat, Kathiawar and Berar), and decreased pressure in North-Eastern India.

(5) The winds at the hill stations in Central India were more largely above their normal strength than in the neighbouring plains :—

Station.	Percentage variation from normal of mean daily air movement in		
	July.	August.	September.
Mount Abu	+68	+37	+20
Pachmarhi	+39	0	−23
Chikalda	+30	+29	+ 7

The following table gives the percentage variation of the strength of the winds from the normal, month by month, in different provinces :—

Area.	Percentage variation from normal of mean daily air movement in				
	June.	July.	August.	September.	Mean of period, June to September.
Burma	−12	− 2	− 8	− 6	− 7
Bengal	+20	+13	+ 5	0	+10
Bihar	−31	−58	−56	−51	−49
Chota Nagpur	−19	+16	+ 4	+ 2	+ 1
North-Western Provinces.	+ 7	+18	+31	+27	+21
Punjab	− 3	+ 9	− 2	+ 5	+ 2
Rajputana	−17	+47	+43	+27	+25
Central Provinces	+ 7	+17	+15	+ 3	+11
Berar	+ 1	+33	+52	+17	+26
Bombay Deccan	− 1	+12	+ 2	+ 1	+ 4
Madras	+14	+27	+26	+ 5	+18

III. The retreating south-west monsoon period.—The monsoon current in the Arabian Sea was, as already pointed out, feebler than usual, and withdrew not only from North Western and Western India but also from the Arabian Sea unusually early. Abnormally dry north-west winds obtained over the whole area north of Lat. 20° N at the commencement of the month of October. North-Eastern India received its last general burst of rain in the last week of September.

The pressure conditions were somewhat abnormal in October. Pressure was generally in excess, the excess being most marked in North-Eastern India, Sind and Rajputana. In the first three weeks of the month pressure was generally very uniform with a marked tendency to the axis of the lowest pressure in North-Eastern India and the Bay to lie north and south instead of east and west. Two cyclonic disturbances formed in the Bay during this period. Their tracks were between north and north-east instead of west-north-westerly, on the whole the more usual direction. The low pressure area shifted south on the last ten days of the month and stretched across the south of the Bay. It thus occupied a position which, as a rule, it does not take until the middle or end of November.

Pressure in November was in considerable to large excess in the southern half of the Peninsula and normal or in slight defect in Upper India and perhaps in Upper Burma. Gradients were hence on the whole somewhat feebler than usual The air movement in the Indian Seas was normal on the mean of the month. It was feebler than usual, on the whole, in Extra Tropical India, and was stronger than usual in the Peninsula. Similar pressure conditions obtained in December. Pressure was in slight defect in North-Western India and in slight to moderate excess in Southern India and the south of the Bay. The air movement was about normal in the Indian Seas. In Northern India it was feebler than usual and in the Peninsula above the normal, probably as a result of the increased heat and dryness of the interior giving rise to stronger day winds than usual.

The following gives the chief features of the direction and strength of the air movement during the period in different parts of India :—

(1) Winds were more northerly and less easterly than usual, and were also feebler than usual at Port Blair in November and December. The air movement in Burma was similar in character to that in the Andamans, the only difference being that there was more easting in the direction of the winds than usual in the month of November.

(2) Winds were steadier but feebler than usual in West Bengal and contained a more pronounced westerly element than usual at most stations in that area. They were very light and unsteady at Saugor Island and False Point. The following gives data showing the amount of the westerly deflection at three stations :—

Station.	Westerly deflection.			
	October.	November.	December.	Mean of period, October to December.
Chittagong	+ 4	−18	−23	−12
Calcutta	−19	+ 5	+ 1	− 4
Saugor Island	+22	+39	+42	+34

(3) The air movement in the Gangetic Plain and Chota Nagpur was normal in direction and intensity but very steady.

(4) Winds were feeble and unsteady in the Punjab, Central India, Rajputana and Sind.

(5) Winds were more southerly and less easterly in the Central Provinces and the Deccan in November and December and more easterly than usual in October. They were considerably steadier than usual in the latter area. The following gives data for five representative stations :—

Station.	Variation from normal of percentage of wind steadiness.			
	October.	November.	December.	Mean of period, October to December.
Nagpur	+ 3	−30	−11	−13
Hyderabad (Deccan)	+25	− 7	−13	+ 2
Bellary	+31	+ 4	+23	+19
Sholapur	+29	+ 9	+10	+16
Madras	+ 9	− 1	+10	+ 6

(6) Winds were stronger and steadier than usual at the Coromandal coast stations and in Southern India.

(7) The air movement varied irregularly from the normal during the period over Northern and Central India but was on the mean of the period practically normal or below it very slightly. The following gives data in illustration :—

Division.	Percentage variation from normal of mean daily air movement in			
	October.	November.	December.	Mean of period, October to December.
Bengal	+13	− 7	+ 3	+ 3
Bihar	− 6	−12	−16	−11
Chota Nagpur	− 1	+ 6	+66	+24
North-Western Provinces	−18	−17	+38	+ 1
Punjab	+ 5	+20	−15	+ 3
Sind	−18	−21	−33	−31
Rajputana	+18	+ 3	+ 2	+ 8

(8) The air movement was slightly stronger than usual and very irregular and unsteady in direction in the area of greatest excess of temperature including Berar and the Central Provinces. The following gives data for stations in that area :—

Station.	Mean daily air movement in					
	October.		November.		December.	
	Actual.	Variation from normal.	Actual.	Variation from normal.	Actual.	Variation from normal.
Akola	110	+27	84	— 1	95	+15
Buldana . . .	151	+26	108	—14	118	—14
Khandwa . . .	100	+29	75	+11	79	+17
Nagpur . . .	112	+10	101	+ 6	98	+15

Station.	Mean wind steadiness in					
	October.		November.		December.	
	Actual percentage.	Variation from normal.	Actual percentage.	Variation from normal.	Actual percentage.	Variation from normal.
Akola	51	+19	44	— 5	50	— 7
Buldana . . .	42	— 7	22	—30	39	— 4
Khandwa . . .	21	—14	3	—49	24	—18
Nagpur	52	+ 3	30	—30	43	—11

(9) The air movement was stronger and steadier than usual generally over the Peninsula, south of Lat. 18° N. as shown below :—

Division.	Mean daily air movement in					
	October.		November.		December.	
	Actual.	Variation from normal.	Actual.	Variation from normal.	Actual.	Variation from normal.
Hyderabad . . .	86	—10	69	—19	73	— 8
Bombay Deccan . .	210	+19	200	— 1	222	+17
Madras Deccan . .	105	+ 1	96	+19	98	+22
Mysore . . .	120	— 4	162	+19	188	+20
Bombay Coast . .	110	—30	139	— 9	135	—16
Madras Coast . .	184	+36	182	—26	162	—48
Southern India . .	56	— 4	96	+22	108	+16

Division.	Mean wind steadiness in					
	October.		November.		December.	
	Actual.	Variation from normal.	Actual.	Variation from normal.	Actual.	Variation from normal.
Hyderabad . . .	58	+25	60	— 7	52	—13
Bombay Deccan . .	31	+13	56	— 7	72	+10
Madras Deccan . .	45	+31	59	+ 4	92	+23
Mysore . . .	51	+36	75	+ 4	87	+ 4
Bombay Coast . .	41	— 7	55	+ 6	43	—13
Madras Coast . .	42	+17	64	— 6	77	— 4
Southern India . .	11	—18	40	+16	58	+ 8

Humidity.

The variation of the mean monthly and annual aqueous vapour pressure and humidity values from the calculated normals for the year 1899 are given in Tables VIII and IX. The normal values employed in the determination of the variations are given in Tables XIII and XIV of the Annual Summary for the year 1896. The four tables (Tables X to XIII) give variation data of aqueous vapour pressure and relative humidity for each month of the year and for the year :—

1st.—For sixteen meteorological areas adopted in the geographical summaries of meteorological data in the annual reports issued by the department previous to 1891.

2nd.—For nine meteorological provinces of the Empire.

TABLE VIII.—*Comparison of the monthly mean vapour pressure data of 1899 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	Port Blair	−·012	−·052	−·017	−·011	+·010	−·006	+·024	+·021	+·017	+·031	−·068	−·038	−·008
	Rangoon	−·043	+·066	−·016	+·015	+·033	−·008	+·020	+·020	+·008	+·006	−·052	−·120	−·006
	Diamond Island	+·042	+·005	+·006	−·019	0	−·008	+·015	+·026	+·023	+·018	−·041	−·059	+·001
	Cocos Island	+·001	+·017	+·027	+·057	+·031	+·002	+·010	+·022	+·019	−·013	−·034	−·032	+·009
	Akyab	+·007	+·111	+·108	+·128	+·075	+·028	−·003	+·027	+·019	?	?	?	?
Bengal and Orissa.	Chittagong	−·029	+·058	+·034	+·022	+·054	+·040	+·006	+·025	+·013	0	−·077	−·020	+·011
	Calcutta (Alipore)	−·019	+·008	−·036	−·029	+·061	−·013	+·009	+·029	+·008	−·021	−·053	−·005	−·005
	Saugor Island	−·062	+·024	+·019	−·014	+·028	−·033	+·017	+·017	+·011	−·023	−·051	+·014	−·005
	False Point	−·002	+·063	+·041	+·018	+·042	+·026	+·014	+·066	+·022	+·040	−·002	+·054	+·032
Gangetic Plain and Chota Nagpur.	Hazaribagh	−·027	+·094	−·053	+·036	+·070	−·024	−·026	−·001	−·096	−·086	−·088	−·051	−·021
	Darbhanga	−·034	+·025	+·059	−·004	+·029	+·029	+·025	+·035	+·027	+·028	+·001	+·011	+·019
	Allahabad	−·053	−·006	−·009	−·001	+·032	−·058	−·028	−·023	−·093	−·099	−·016	−·025	−·032
Upper Sub-Himalayas.	Dehra Dun	−·049	−·007	+·007	−·048	+·082	−·056	+·014	−·016	−·109	−·103	−·072	−·055	−·034
	Roorkee	−·070	−·021	−·038	−·059	+·071	−·031	+·033	−·036	−·205	−·142	−·060	−·063	−·051
	Meerut	−·094	+·006	+·005	−·034	+·087	+·027	+·046	−·034	−·134	−·076	−·010	−·017	−·019
	Lahore	−·077	+·001	−·038	−·023	+·049	+·059	−·004	−·106	−·205	−·127	−·026	−·023	−·043
	Ludhiana	−·067	−·020	−·073	−·116	−·052	−·064	−·040	−·115	−·253	−·192	−·052	−·046	−·091
Indus Valley and North-West Rajputana.	Peshawar	−·064	+·043	+·030	−·030	+·039	+·022	+·042	−·084	−·099	−·060	−·027	0	−·016
	Jacobabad	−·063	+·031	+·028	−·029	+·082	+·042	+·076	+·007	+·014	−·029	+·001	+·034	+·016
	Kurrachee	−·076	+·038	+·019	+·032	+·081	−·026	+·012	+·040	−·019	−·058	+·054	+·094	+·016
Eastern Rajputana, Central India and Gujarat.	Jaipur	−·092	−·019	−·024	+·006	+·135	−·017	−·075	−·104	−·093	−·105	−·027	−·025	−·037
	Deesa	−·099	−·035	−·065	−·056	+·021	−·032	−·122	−·145	−·129	−·198	−·066	−·027	−·079
Deccan.	Belgaum	−·059	−·007	−·002	+·016	−·012	−·006	−·010	−·013	+·006	−·032	−·102	−·125	−·029
	Sholapur	−·113	−·046	−·046	+·076	−·003	−·041	−·093	−·094	−·061	−·174	−·217	−·163	−·081
	Poona	−·094	−·026	−·065	+·051	+·032	−·018	−·041	−·053	−·032	−·096	−·121	−·108	−·048
	Akola	−·140	−·039	−·094	+·095	+·107	+·001	−·075	−·071	−·130	−·244	−·169	−·075	−·070
	Buldana	−·152	−·073	−·127	+·013	−·006	−·039	−·097	−·102	−·135	−·268	−·226	−·144	−·113
	Khandwa	−·140	−·077	−·102	−·027	+·025	−·045	−·064	−·083	−·154	−·217	−·156	−·113	−·096
	Nagpur	−·123	−·014	−·089	+·113	+·117	−·029	−·060	−·051	−·113	−·178	−·135	−·071	−·053
	Hyderabad (Deccan.)	−·076	−·044	−·078	+·027	+·021	−·045	−·062	−·031	−·030	−·138	−·147	−·107	−·059
West Coast	Bombay	−·116	−·033	−·035	−·038	−·033	−·061	−·058	−·049	−·050	−·017	−·026	−·048	−·047
	Karwar	−·062	−·019	+·029	−·032	−·026	−·024	−·019	−·023	−·019	+·002	−·042	−·082	−·031
South India	Salem	+·002	+·034	+·041	+·035	+·022	−·031	−·037	−·018	+·014	+·005	−·068	−·089	−·008
	Chitaldroog	−·016	+·018	−·045	+·132	+·031	−·008	0	−·022	+·026	−·010	−·121	−·089	−·009

TABLE VIII.—*Comparison of the monthly mean vapour pressure data of 1899 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
South India *contd.*—	Bangalore	—·023	+·007	—·099	+·050	+·019	—·040	—·048	—·044	+·030	—·015	—·137	—·105	—·034
	Hassan	—·049	—·006	—·108	+·017	—·025	+·009	+·005	—·017	+·027	—·010	—·170	—·149	—·040
	Mysore	—·068	—·024	—·085	+·021	—·016	—·014	—·032	—·069	+·039	+·019	—·154	—·067	—·038
	Madras	—·001	+·031	+·005	+·040	—·009	—·053	—·022	+·015	+·037	+·035	—·011	—·018	+·004
	Bellary	—·115	+·025	—·025	—·027	—·112	—·130	—·130	—·117	—·088	—·107	—·148	—·116	—·091
	Cocanada	—·050	—·018	—·052	—·005	—·078	—·040	—·135	—·024	—·024	—·024	—·122	—·075	—·054
	Vizagapatam	+·025	+·037	—·012	+·048	+·049	+·076		Obser	vatory	closed.			?
Hill Station, Baluchistan.	Quetta	—·056	0	+·005	—·049	+·028	—·025	—·160	—·074	—·050	—·024	+·024	+·024	—·030
	Leh	—·041	—·017	+·022	+·033	+·003	+·010	+·016	—·011	—·021	+·005	+·025	—·019	0
Hill Stations, Northern India.	Srinagar	—·024	+·025	+·088	+·040	+·131	+·151	?	+·057	+·029	+·072	+·044	+·030	+·058
	Kailang	—·027	—·003	+·013	—·005	+·022	+·011	+·010	—·037	—·034	—·028	+·002	—·004	—·007
	Simla (Ridge)	—·038	—·017	—·013	—·043	+·046	—·015	—·010	—·054	—·111	—·070	—·032	—·025	—·032
	Chakrata	—·036	+·006	—·026	—·036	+·027	—·030	+·017	—·016	—·084	—·089	—·052	—·029	—·029
	Ranikhet	?	—·007	—·038	—·045	+·032	—·037	+·017	—·017	—·079	—·096	—·061	—·040	—·034
	Katmandu	—·029	+·016	+·010	—·040	+·033	+·026	+·009	+·011	—·002	—·009	—·007	—·020	0
	Darjeeling	—·021	?	+·070	+·010	+·048	+·003	+·011	+·020	+·011	+·006	0	—·007	+·014
Hill Stations, Central India.	Mount Abu	—·060	—·014	—·025	—·020	+·035	—·047	—·050	—·066	—·077	—·115	—·020	+·003	—·038
	Pachmarhi	—·065	+·037	+·038	+·109	+·138	+·081	—·009	—·011	—·081	—·122	—·069	—·060	—·001
	Chikalda	—·100	—·041	—·076	+·012	+·069	—·003	—·024	—·014	—·066	—·147	—·144	—·092	—·052
Hill Station, Southern India.	Wellington	—·030	+·019	—·085	+·069	—·021	—·025	—·035	—·022	+·012	—·008	—·089	—·090	—·025
Extra-Indian Stations.	Aden	—·055	—·009	—·055	—·044	—·043	—·068	—·097	—·035	—·047	—·091	+·008	+·007	—·042
	Perim	+·015	?	—·014	+·026	+·069	+·149	+·016	+·008	+·065	—·029	+·040	+·043	+·035
	Zanzibar	—·038	—·027	—·059	—·015	—·075	—·060	—·017	—·028	—·042	—·024	—·010	—·017	—·034
	Port Victoria (Seychelles).	—·039	—·037	—·005	—·006	+·012	—·002	+·018	+·019	—·015	—·008	—·003	—·009	—·006

TABLE IX.—*Comparison of the monthly mean relative humidity data of 1899 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands.	Port Blair	— 5	— 3	— 2	+ 3	+ 2	0	— 3	— 1	+ 1	— 1	— 2	— 1	— 1
	Rangoon	— 4	+ 7	— 3	+ 1	+ 9	0	0	+ 2	0	— 3	— 1	— 9	0
	Diamond Island	0	— 1	— 1	— 3	+ 8	— 3	— 4	— 1	— 2	— 4	— 5	— 6	+ 2
	Cocos Island	— 3	0	+ 1	+ 2	0	— 2	— 5	— 4	— 1	— 4	— 6	— 3	— 2
	Akyab	+ 3	+10	+ 6	+ 8	+ 9	+ 3	+ 1	— 1	— 1	?	?	?	?

TABLE IX.—*Comparison of the monthly mean relative humidity data of 1899 with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Bengal and Orissa.	Chittagong	— 1	+ 5	0	+ 6	+ 3	+ 1	+ 2	0	0	+ 2	— 1	+ 3	+ 2
	Calcutta (Alipore)	— 3	— 2	— 8	— 5	+ 2	— 1	0	— 3	— 5	— 4	— 5	— 4	— 3
	Saugor Island	— 4	+ 2	— 1	— 1	+ 3	+ 1	— 1	— 2	— 3	— 2	— 3	— 1	— 1
	False Point	— 3	+ 2	— 1	0	+ 3	+ 4	— 1	+ 1	— 3	+ 3	+ 2	+ 2	+ 1
Gangetic Plain and Chota Nagpur.	Hazaribagh	+ 1	— 2	— 9	+ 4	+ 6	+ 1	0	— 5	—18	—12	—14	—12	— 5
	Darbhanga	+ 2	+ 2	+ 2	+ 2	+ 1	+ 4	+ 6	+ 1	0	0	+ 1	+ 2	+ 2
	Allahabad	— 3	— 6	— 6	+ 1	+ 1	+ 2	+ 4	— 6	—12	—12	— 7	—11	— 5
Upper Sub-Himalayas.	Dehra Dun	— 6	— 4	— 5	— 2	+ 7	— 2	+ 3	— 9	—15	—18	—14	—15	— 7
	Roorkee	— 6	— 7	—10	— 5	+ 3	+ 2	+ 6	— 9	—21	—15	—10	—13	— 7
	Meerut	—13	— 3	— 7	— 4	— 3	+ 8	+ 7	—11	—18	—10	— 5	— 8	— 6
	Lahore	— 9	— 3	— 7	0	— 1	+ 7	— 3	—12	—18	—11	— 7	— 8	— 6
	Ludhiana	— 9	— 8	—16	—12	—10	— 4	— 5	—16	—27	—20	—11	—24	—14
Indus Valley and North-West Rajputana.	Peshawar	—13	+ 7	— 1	— 5	— 4	— 1	0	— 9	—12	— 9	—11	— 9	— 6
	Jacobabad	—10	+ 3	— 1	— 6	+ 2	0	+ 3	— 2	— 1	— 5	— 3	0	— 2
	Kurrachee	—11	+ 2	+ 2	— 3	+ 3	— 4	+ 1	— 1	— 3	— 7	+ 1	+ 3	— 1
East Rajputana, Central India and Gujarat.	Jaipur	—15	— 7	— 9	— 1	+ 5	+ 2	— 9	—25	—17	—16	—11	—12	—10
	Deesa	—10	— 4	— 5	— 3	+ 4	— 1	—17	—22	—16	—22	—12	— 8	—10
Deccan	Belgaum	— 2	+ 4	+ 4	+ 9	+ 1	+ 2	— 3	— 5	— 2	— 7	—11	—15	— 2
	Sholapur	—12	— 6	— 7	+10	+ 1	— 5	—15	—15	— 9	—26	—27	—22	—11
	Poona	— 3	+ 3	— 2	+14	+ 6	— 1	— 7	—10	— 6	—13	— 9	—11	— 3
	Akola	—17	— 5	—10	+ 9	+ 7	0	—12	—15	—22	—32	—27	—21	—12
	Buldana	—20	— 9	—14	+ 6	+ 1	— 3	—14	—18	—22	—36	—32	—25	—16
	Khandwa	—15	—11	—13	— 3	+ 1	— 5	— 9	—17	—24	—30	—25	—23	—15
	Nagpur	—15	— 3	—12	+12	+ 7	— 4	— 9	—10	—19	—23	—22	—16	—10
	Hyderabad (Deccan)	—10	— 5	—10	+ 4	+ 3	— 6	—12	— 9	— 8	—21	—21	—17	— 9
West Coast	Bombay	—10	— 3	— 5	— 4	— 5	— 3	— 8	— 9	— 8	— 8	— 4	— 8	— 6
	Karwar	— 4	— 1	0	0	— 1	— 1	— 7	— 5	— 2	— 3	— 2	— 5	— 3
South India	Salem	+ 2	+ 5	+ 1	+10	+ 3	— 5	— 9	— 8	+ 1	— 1	—10	—11	— 2
	Chitaldroog	0	+ 3	— 4	+16	+ 3	0	— 5	— 8	+ 3	— 5	—19	—13	— 2
	Bangalore	— 1	+ 2	— 9	+ 9	+ 4	— 4	—11	—10	+ 3	— 5	—16	—12	— 4
	Hassan	— 2	+ 1	—12	+ 6	— 2	+ 1	— 4	— 6	+ 2	— 4	—19	—15	— 5
	Mysore	— 6	— 3	— 8	+ 3	— 2	— 1	— 8	— 9	+ 5	0	—13	—10	— 4
	Madras	+ 1	+ 2	+ 2	+ 5	— 7	— 8	— 6	— 4	+ 3	+ 5	— 1	+ 3	0
	Bellary	—12	+ 3	— 3	+ 3	— 7	—11	—15	—13	— 8	—13	—18	—14	— 9
	Cocanada	— 6	— 4	— 4	0	— 3	— 4	—20	— 7	— 6	— 4	—11	— 9	— 7
	Vizagapatam	+ 4	+ 4	+ 1	+ 6	+ 4	+ 9		Observatory closed.					

TABLE IX.—*Comparison of the monthly mean relative humidity data of 1899 with the averages of past years*—concld.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
HILL STATION, BALUCHISTAN	Quetta	−18	− 7	− 3	− 9	+ 1	− 4	−16	−10	− 7	− 4	0	− 1	− 7
	Leh	−12	− 8	+ 3	+14	0	0	− 2	+ 2	0	+ 5	+ 9	−15	0
HILL STATIONS, NORTHERN INDIA.	Srinagar	+ 4	+ 6	+ 8	+12	+12	+11	?	+ 7	+ 3	+ 2	+ 5	+ 5	+ 7
	Kailang	− 2	− 1	+ 1	+ 4	+ 1	− 1	− 2	− 7	− 7	− 7	+ 5	− 5	− 2
	Simla (Ridge)	− 5	− 7	− 8	− 2	+ 7	0	+ 1	−10	−18	−13	− 9	− 7	− 6
	Crakrata	− 7	− 3	−13	0	+ 2	− 2	+ 3	− 3	−17	−20	−16	−12	− 7
	Ranikhet	?	− 5	−15	− 2	− 1	− 2	+ 4	− 7	−17	−19	−14	−13	− 8
	Katmandu	0	0	− 3	− 4	− 1	+ 4	+ 1	+ 1	− 3	− 3	− 2	− 5	− 1
	Darjeeling	+ 1	?	+16	+ 6	+ 3	+ 1	+ 2	0	0	+ 5	+ 4	− 2	+ 3
HILL STATIONS, CENTRAL INDIA.	Mount Abu	− 9	− 4	− 7	− 2	+ 3	− 5	− 6	−17	−15	−20	− 7	− 6	− 8
	Pachmarhi	− 7	+ 3	− 2	+ 9	+10	+10	+ 3	−10	−17	−21	−16	−14	− 4
	Chikalda	−15	− 7	−11	+ 5	+ 7	− 1	− 3	− 8	−17	− 28	−27	−20	−10
HIL STATION, SOUTH INDIA.	Wellington	−10	+ 3	−15	+12	− 3	− 5	−10	− 6	0	− 5	−17	−20	− 6
EXTRA-INDIAN STATIONS.	Aden	− 5	+ 1	− 5	− 4	− 5	− 4	−10	− 8	− 5	− 8	+ 2	0	− 4
	Perim	+ 4	?	+ 2	+ 3	+ 8	+10	+ 2	+ 1	+ 7	− 1	+ 5	+ 3	+ 4
	Zanzibar	− 4	− 3	− 3	+ 1	− 4	− 4	0	− 1	− 4	− 3	− 6	− 3	− 3
	Port Victoria (Seychelles).	− 1	− 2	− 2	− 2	+ 1	0	+ 2	+ 3	+ 1	+ 1	0	0	*0
	Mauritius	− 2	+ 4	+ 3	+ 1	0	0	− 1	+ 1	+ 1	+ 5	+ 3	− 3	+ 1

TABLE X.—*Geographical summary of the aqueous vapour pressure data of Table II in the monthly weather reviews of 1899.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalaya	5–6	−·033	−·002	+·008	−·009	+·044	+·015	+·010	−·013	−·050	−·034	−·012	−·017	−·008
Sikkim Himalaya and Nepal.	1–2	−·025	+·016	+·040	−·015	+·041	+·015	+·010	+·016	+·005	−·002	−·004	−·014	+·007
Punjab Plains	3	−·069	+·008	−·027	−·056	+·012	+·006	−·001	−·102	−·186	−·126	−·035	−·022	−·050
Gangetic Plain	5	−·060	−·001	+·005	−·029	+·060	−·020	+·019	−·015	−·103	−·078	−·031	−·030	−·024
Western Rajputana	4	−·075	+·005	−·011	−·018	+·055	−·016	−·021	−·041	−·053	−·100	−·008	+·026	−·021
Eastern Rajputana and Central India.	1	−·092	−·019	−·024	+·006	+·135	−·017	−·075	−·104	−·093	−·105	−·027	−·025	−·037
Nerbudda Valley	1	−·140	−·077	−·102	−·027	+·025	−·045	−·064	−·083	−·154	−·217	−·156	−·113	−·096
Chota Nagpur	1	−·027	+·094	−·053	+·036	+·070	−·024	−·026	−·001	−·096	−·086	−·088	−·051	−·021
Lower Bengal	2	−·041	+·016	−·009	−·022	+·045	−·023	+·013	+·023	+·010	−·025	−·052	+·005	−·005
Orissa	1	−·002	+·063	+·041	+·018	+·042	+·026	+·014	+·066	+·022	+·040	−·002	+·054	+·032
Central Provinces, (South) and Berar.	5	−·116	−·026	−·070	+·068	+·085	+·002	−·053	−·050	−·105	−·192	−·149	−·088	−·058
Konkan	2	−·089	−·026	−·032	−·035	−·030	−·043	−·039	−·036	−·035	−·008	−·034	−·065	−·039

TABLE X.—*Geographical summary of the aqueous vapour pressure data of Table II in the monthly weather reviews of 1899.*—concld.

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Deccan, Hyderabad and Mysore.	9	−·008	−·011	−·061	+·040	−·007	−·033	−·046	−·051	−·009	−·063	−·147	−·114	−.048
East Coast and Carnatic.	3− 4	−·006	+·021	−·005	+·030	−·004	−·012	−·065	−·009	+·009	+·005	−·067	−·061	−·014
Arakan and Pegu .	3− 4	−·006	+·060	+·033	+·037	+·041	+·013	+·010	+·025	+·016	+·008	−·057	−·066	+·010
Bay Islands . .	2	−·006	−·018	+·005	+·023	+ 021	−·002	+·017	+·022	+·018	+·009	−·051	−·035	0
Extra-Tropical India .	25−26	−·055	+·005	−·005	−·019	+·048	−·005	−·002	−·026	−·072	−·069	−·029	−·014	−·020
Tropical India . .	25−27	−·054	+·001	−·034	+·038	+·017	−·014	−·035	−·027	−·021	−·059	−·108	−·086	−·032
Whole India . .	51−53	−·054	+·003	−·020	+·010	+·033	−·010	−·019	−·026	−·046	−·064	−·068	−·049	−·026

TABLE XI.—*Geographical summary of the humidity data of Table II in the monthly weather reviews of 1899.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalaya	5−6	− 4	− 3	− 4	+ 4	+4	+ 1	+ 1	− 3	− 9	− 9	− 3	− 8	− 3
Sikkim Himalaya and Nepal.	1−2	+ 1	0	+ 7	+ 1	+1	+ 3	+ 2	+ 1	− 2	+ 1	+ 1	− 4	+ 1
Punjab Plain . .	3	−10	− 1	− 8	− 6	−5	+ 1	− 3	−12	−19	−13	−10	−14	− 8
Gangetic Plain . .	5	− 5	− 4	− 5	− 2	+2	+ 3	+ 5	− 7	−13	−11	− 7	− 9	− 4
Western Rajputana .	4	−10	− 1	− 3	− 4	+3	− 3	− 5	−11	− 9	−14	− 5	− 3	− 5
Eastern Rajputana and Central India.	1	−15	− 7	− 9	− 1	+5	+ 2	− 9	−25	−17	−16	−11	−12	−10
Nerbudda Valley .	1	−15	−11	−13	− 3	+1	− 5	− 9	−17	−24	−30	−25	−23	−15
Chota Nagpur . .	1	+ 1	− 2	− 9	+ 4	+6	− 1	0	− 5	−18	−12	−14	−12	− 5
Lower Bengal . .	2	− 4	0	− 5	− 3	+3	0	− 1	− 3	− 4	− 3	− 4	− 3	− 2
Orissa	1	− 3	+ 2	− 1	0	+3	+4	− 1	+ 1	− 3	+ 3	+ 2	+ 2	− 1
Central Provinces (South) and Berar.	5	−15	− 4	−10	+ 8	+6	0	− 7	−12	−19	−28	−25	−19	−10
Konkan . . .	2	− 7	− 2	− 3	− 2	−3	− 2	− 8	− 7	− 5	− 6	− 3	− 7	− 5
Deccan, Hyderabad and Mysore.	9	− 5	0	− 6	+ 8	+1	− 3	− 9	− 9	− 2	−10	−17	−14	− 6
East Coast and Carnatic.	3−4	0	+ 2	0	+ 5	−1	− 2	−12	− 6	− 1	0	− 7	− 6	− 2
Arakan and Pegu .	3−4	− 1	+ 5	+ 1	+ 3	+7	0	0	0	− 1	− 2	− 2	− 4	− 1
Bay Islands . .	2	− 4	− 2	− 1	+ 3	+1	− 2	− 4	− 3	0	− 3	− 4	− 2	− 2
Extra-Tropical India .	25−26	− 6	− 2	− 4	− 1	+2	+ 1	− 1	− 7	−11	−10	− 6	− 8	− 4
Tropical India . .	25−27	− 6	0	− 4	+ 6	+2	− 2	− 7	− 7	− 5	−10	−13	−12	− 5
Whole India . .	50−53	− 6	− 1	− 4	+ 3	+2	0	− 4	− 7	− 8	−10	−10	−10	− 5

TABLE XII.—*Variations of the mean monthly aqueous vapour pressure from the normal in 1899 in nine meteorological provinces of India.*

METEOROLOGICAL PROVINCES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands	−·002	+·033	+·022	+·028	+·030	+·002	+·014	+·024	+·017	+·018	−·054	−·079	+·004
Bengal and Orissa . .	−·029	+·038	+·015	−·001	+·046	+·005	+·003	+·034	+·014	+·002	−·046	+·011	+·008
Gangetic Plain and Chota Nagpur.	−·037	+·038	−·001	+·010	+·044	−·021	−·010	+·004	−·054	+·052	−·034	−·022	−·003
Upper Sub-Himalayas . .	−·071	−·008	−·027	−·056	+·047	−·013	+·011	−·061	−·181	−·128	−·044	−·040	−·048
Indus Valley and North-West Rajputana.	−·068	+·037	+·026	−·009	+·067	+·013	+·043	−·012	−·035	−·049	+·009	+·043	+·005
East Rajputana, Central India and Gujarat.	−·096	−·027	−·045	−·025	+·078	−·025	−·099	−·125	−·111	−·152	−·047	−·026	−·058
Deccan	−·112	−·041	−·075	+·046	+·035	−·028	−·063	−·062	−·081	−·168	−·160	−·113	−·069
West Coast	−·089	−·026	−·003	−·035	−·030	−·043	−·039	−·036	−·035	−·008	−·034	−·065	−·037
South India	−·033	+·012	−·051	−·035	−·013	−·026	−·050	−·037	+·008	−·013	−·116	−·088	−·037

TABLE XIII.—*Variations of the mean monthly relative humidity from the normal in 1899 in the nine meteorological provinces of India.*

METEOROLOGICAL PROVINCES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands	− 2	+3	0	+2	+7	0	− 2	0	− 1	− 3	− 3	− 5	0
Bengal and Orissa . .	− 3	+2	−3	0	+3	+1	+ 1	− 1	− 3	0	− 2	0	0
Gangetic Plain and Chota Nagpur.	0	−2	−4	+2	+3	+2	+ 3	− 3	−10	− 8	− 7	− 7	− 3
Upper Sub-Himalayas . .	− 8	−5	−9	−5	−1	+2	+ 2	−11	−20	−15	− 9	−13	− 8
Indus Valley and North-West Rajputana.	−11	+4	0	−5	0	−2	+ 1	− 4	− 5	− 7	− 4	− 2	− 3
East Rajputana, Central India and Gujarat.	−13	−5	−7	−2	+5	+1	−13	−24	−17	−19	−12	−10	−10
Deccan	−12	−4	−8	+8	+3	−3	−10	−12	−14	−24	−22	−19	−10
West Coast	− 7	−2	−3	−2	−3	−2	− 8	− 7	− 5	− 6	− 3	− 7	− 5
South India	− 2	+1	−4	+6	0	−3	−10	− 8	0	− 3	−13	−10	− 4

***I.—The cold weather period*:**—Weather was less disturbed by storms than usual in January. A large number of cold weather depressions affected Upper India in February, but they were feeble and their influence on the humidity conditions was very slight. The air was very dry over nearly the whole of the interior of India in both months, this condition being more pronounced in January than in February. The following gives the more important features:—

(1) The variations from the mean humidity conditions

were small and somewhat irregular in Burma and North-Eastern India. The following gives comparative data:—

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Lower Burma	−·001	+·036	+·018	−2	+3	+1
Bengal	−·037	+·030	−·004	−3	+2	−1
Orissa	−·002	+·063	+·031	−3	+2	−1
Bihar	−·034	+·025	−·005	+2	+2	+2
Chota Nagpur	−·027	+·094	+·034	+1	−2	−1

(2) Humidity was, on the mean of the period, very slightly above the normal in Southern India and the Madras Coast and less than the normal in the South Deccan. The following gives comparative data for three provinces or areas:—

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
South Deccan	−·115	+·025	−·045	−12	+3	−5
Madras Coast	−·009	+·017	+·004	0	+1	+1
South India	+·002	+·034	+·018	+2	+5	+4

(3) The air was much drier than usual in the Indus Valley in January and damper in February. Hence on the mean of the period humidity was in slight defect. The following gives data for three stations in that area:—

Station.	Variation of absolute humidity from normal in			Variation of relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Peshawar	−·064	+·043	−·011	−13	+7	−3
Jacobabad	−·063	+·031	−·016	−10	+3	−4
Kurrachee	−·076	+·038	−·019	−11	+2	−5

(4) The air was remarkably dry over the large area in the interior including Rajputana, the North-Western Provinces, Central India, Berar, the Central Provinces and the North and Central Deccan. The following gives data:—

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
North-Western Provinces.	−·066	−·027	−·037	−7	−5	−6
Rajputana	−·096	−·027	−·062	−13	−6	−10
Berar	−·136	−·056	−·101	−19	−7	−13
Central Provinces	−·132	−·046	−·089	−15	−7	−11
Bombay Deccan	−·089	−·026	−·058	−6	0	−3
Hyderabad Deccan	−·076	−·044	−·060	−10	−5	−8

The following gives comparative data for seven stations in the area of most excessive dryness of the air:—

Station.	Absolute humidity.			Relative humidity.		
	Actual, January and February.	Normal, January and February.	Mean variation from normal, January and February.	Actual, January and February.	Normal, January and February.	Mean variation from normal, January and February.
	"	"	"			
Sholapur	·256	·336	−·080	31	40	−9
Chikalda	·224	·295	−·071	36	47	−11
Buldana	·181	·294	−·113	25	40	−15
Nagpur	·280	·349	−·069	38	47	−9
Khandwa	·208	·317	−·109	32	45	−13
Jaipur	·210	·266	−·056	37	48	−11
Akola	·221	·311	−·090	32	43	−11

(5) The variations at the hill stations in North-Western

India were similar to those in the adjacent plains. The following gives comparative data for seven stations :—

Station.	Variation of absolute humidity from normal in			Variation of relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Leh	—·041	—·017	—·029	—12	—8	—10
Kailang	—·027	—·003	—·015	— 2	—1	— 2
Srinagar	—·024	+·025	+·001	+ 4	+6	+ 5
Simla	—·038	—·017	—·028	— 5	—7	— 6
Chakrata	—·036	+·006	—·015	— 7	—3	— 5
Ranikhet	?	—·007	?	?	—5	?
Mount Abu	—·060	—·014	—·037	— 9	—4	— 7

(6) The air was excessively dry in Baluchistan and considerably drier than usual in Arabia and at Baghdad, and humidity was probably in slight excess in Persia as is shown by the following comparative data :—

Station.	Variation of absolute humidity from normal in.			Variation of relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Quetta	—·056	0	—·028	—18	—7	—13
Muscat	—·052	—·039	—·046	— 4	—6	— 5
Aden	—·055	—·009	—·032	— 5	+1	— 2
Bushire	—·017	+·025	+·004	+ 1	+6	+ 4
Baghdad	—·013	—·017	—·015	— 2	—3	— 3

***II.—The hot weather period*:**—March resembled January and February as the air was much drier than usual over practically the whole of India. A large change occurred in the beginning of April which reverted the humidity conditions over the greater part of India. Weather was more disturbed than usual with much rain, which fell chiefly as thundershowers in North-Eastern India and the Peninsula. The air was hence on the mean of the month much damper in the interior of the Peninsula and slightly damper in the coast districts and North-Eastern India.

Drier weather than usual held steadily in Upper India in both April and May. Over the remainder of India the conditions in May did not differ much from the normal, the air being slightly damper than usual, either accompanying frequent thunderstorms or as a residual effect of the heavy rain over the Peninsula during the previous month.

The mean humidity conditions of this period differed less from the normal than during the other periods of the year. The following gives a summary of the chief features :—

(1) Weather was considerably drier than usual in Upper India throughout the period, as shown below :—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
	"	"	"	"				
Baluchistan (Quetta).	+·005	—·049	+·028	—·005	+3	—9	+1	—4
Punjab	—·027	—·056	+·012	—·024	—8	—6	—5	—6
Sind	+·024	+·002	+·082	+·036	+1	—5	+3	0

(2) The variations were smaller at the hill stations in Upper India than in the neighbouring plains :—

Station.	Variation of absolute humidity from normal in				Variation of relative humidity from normal in			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
	"	"	"	"				
Leh	+·022	+·033	+·003	+·019	+ 3	+14	0	+ 6
Srinagar	+·088	+·040	+·131	+·086	+ 8	+12	+12	+11
Simla	—·013	—·043	+·046	—·003	— 8	— 2	+ 7	— 1
Chakrata	—·026	—·036	+·027	—·012	—13	0	+ 2	— 4
Ranikhet	—·038	—·045	+·032	—·017	—15	— 2	— 1	— 6

(3) The variations of the humidity conditions from the

normal were small throughout the period in North-Eastern India and Burma. The following gives data:—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	March.	April.	May.	Period March to May.	March.	April.	May.	Period March to May.
	"	"	"	"				
Bihar	+·059	−·004	+·029	+·028	+2	+2	+1	+2
Chota Nagpur	−·053	+·036	+·070	+·018	−9	+4	+6	0
Bengal	+·006	−·007	+·048	+·016	−3	0	+3	0
Orissa	+·041	+·018	+·042	+·034	−1	0	+3	+1
Burma	+·033	+·041	+·036	+·037	+1	+2	+8	+4
Port Blair	−·017	−·011	+·010	−·006	−2	+3	+2	+1

(4) The air was much drier in March in Central India and the Peninsula, much damper in April, and generally slightly damper in May. It was drier than usual in March and April in Rajputana and the North-Western Provinces and damper in May, as is shown below:—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	March.	April.	May.	Period March to May.	March.	April.	May.	Period March to May.
	"	"	"	"				
Rajputana	−·045	−·025	−·078	−·049	−7	−2	+5	−1
North-Western Provinces.	−·009	−·036	−·068	−·038	−7	−3	+2	−3
Berar	−·111	+·054	+·051	−·002	−12	+8	+4	0
Central Provinces	−·096	+·043	+·071	+·006	−13	+5	+4	−1
Bombay Deccan	−·038	+·048	+·006	+·005	−2	+11	+3	+4
Madras Deccan	−·025	−·027	−·112	−·055	−3	+3	−7	−2
Bombay Coast	−·003	−·035	−·030	−·023	−3	−2	−3	−3
Madras Coast	−·020	+·028	−·013	−·002	0	+4	0	+1
Mysore	−·084	+·055	+·002	−·009	−8	+9	+1	+1

III.—The south-west monsoon period.—The Bombay monsoon current was weak in June. It was slightly later in being established on the Bombay Coast than usual, but advanced rapidly into Upper India for a brief period and withdrew in the last week of the month. The Bombay monsoon current was abnormally feeble during the remainder of the period and the rainfall was very greatly below the normal over the region which usually obtains rain from it, the drought intensifying with the advance of the season. The Bay current was of normal strength from June to August and fell slightly below its normal strength in September.

The humidity conditions of the period were determined by their variations in the strength and rain-giving capacity of the monsoon currents.

The following is a brief statement of the chief features of the mean humidity conditions of the whole period:—

(1) The variations of the humidity conditions were generally small in amount throughout the period in Burma and North-Eastern India, as shown below:—

Area.	Variation of mean absolute humidity from normal in					Variation of mean relative humidity from normal in				
	June.	July.	August.	September.	Period June to September.	June.	July.	August.	September.	Period June to September.
	"	"	"	"	"					
Burma	+·003	+·011	+·024	+·017	+·014	0	−1	0	−1	−1
Bengal	−·002	−·001	+·024	+·011	+·008	0	0	−2	−3	−1
Orissa	+·026	+·014	+·066	+·022	+·032	+4	+1	+1	−3	+1
Chota Nagpur	−·024	−·020	−·001	−·096	−·037	−1	0	−5	−18	−6
Bihar	+·029	+·025	+·035	+·027	+·029	+4	+6	+1	0	+3

(2) Over nearly the whole of the remainder of India including the Punjab, North-Western Provinces, Rajputana, Central India, Berar, the Central Provinces, North Bombay, Konkan and the Deccan, the air was on the mean of the period abnormally dry. The variations were slight and unimportant in June but were large during the remainder of the period, increasing in amount throughout. The amount of aqueous vapour present in the air was much less than usual. This in combination with the increased temperature due to decreased cloud and rainfall reduced the relative humidity very largely below the normal over the interior districts. The following gives comparative aqueous vapour pressure data for this period in this area of abnormal dryness:—

Area.	Variation of mean absolute humidity from normal in					Variation of mean relative humidity from normal in				
	June.	July.	August.	September.	Period June to September.	June.	July.	August.	September.	Period June to September.
	"	"	"	"	"					
Baluchistan (Quetta).	−·025	−·160	−·074	−·050	−·077	−4	−16	−10	−7	−9
Punjab	+·006	−·022	−·102	−·186	−·076	+1	−4	−12	−19	−9
Rajputana	−·025	−·099	−·125	−·111	−·090	+1	−13	−24	−17	−13
Sind	+·008	+·044	+·024	−·003	+·018	−2	+2	−2	−2	−1
North-Western Provinces.	−·032	−·018	−·027	−·135	−·053	+3	+5	−9	−17	−5
Berar	−·019	−·085	−·087	−·133	−·081	−2	−13	−17	−22	−14
Central Provinces	−·037	−·052	−·067	−·134	−·075	−5	−9	−14	−22	−13
Konkan	−·043	−·039	−·036	−·035	−·038	−2	−8	−7	−5	−6
Bombay Deccan	−·022	−·048	−·053	−·029	−·038	−1	−8	−10	−6	−6
Madras Deccan	−·130	−·150	−·117	−·088	−·116	−11	−15	−13	−8	−12

The variations of the humidity conditions from the normal were largest in Berar, the Central Provinces, Central India, Rajputana and the South and East Punjab.

The following gives comparative data for representative stations in these areas :—

Station.	Variation of absolute humidity from normal in					Variation of relative humidity from normal in				
	June.	July.	August.	September.	Period June to September.	June.	July.	August.	September.	Period June to September.
	"	"	"	"	"					
Buldana	—·039	—·097	—·102	—·135	—·093	—3	—14	—18	—22	—14
Akola	+ 001	—·073	—·071	—·130	—·068	0	—12	—15	—22	—12
Khandwa	—·045	—·064	—·083	—·154	—·087	—5	— 9	—17	—24	—14
Nagpur	—·029	—·060	—·051	—·113	—·063	—4	— 9	—10	—19	—11
Deesa	—·032	—·122	—·145	—·129	—·107	—1	—17	—22	—16	—14
Jaipúr	—·017	—·075	—·104	—·093	—·072	+2	— 9	—25	—17	—12
Ludhiana	—·064	—·040	—·115	—·253	—·118	—4	— 5	—16	—27	—13
Lahore	+·059	—·004	—·106	—·205	—·064	+7	— 3	—12	—18	— 7

IV.—The retreating south-west monsoon period.—The humidity conditions of this period were almost solely determined by the failure of the rains over the greater part of India during the previous three months. In the drought area including the South Punjab, Rajputana, Central India, Berar, the Central Provinces, the Deccan and Mysore the air was excessively and abnormally dry, the only year comparable in this respect being the corresponding period of the year 1896. The rains ceased in North-Eastern India in the fourth week of September and in Burma in the second week of November. Moderate to heavy rain fell in North-Eastern India in October due to two cyclonic storms. The regular rains ceased on the 25th of September. The interior of the Peninsula, more especially the Deccan, received very scanty rain during the period, thus emphasizing the previously established drought conditions. The rainfall of the retreating south-west monsoon was chiefly determined to the coast districts of the south of the Peninsula in November and the first week of December.

(1) The chief feature of the period was the abnormal dryness of the air over the whole of North-Western and Central India and the north and centre of the Peninsula. The following gives comparative data :—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Chota Nagpur.	—·086	—·088	—·051	—·075	—12	—14	—12	—13
Punjab	—·126	—·035	—·023	—·061	—13	—10	—14	—12
Sind	—·044	+·028	+·064	+·016	— 6	— 1	+ 2	— 2
Raputana	—·152	—·047	—·026	—·075	—19	—12	—10	—14
Berar	—·256	—·198	—·110	—·188	—34	—30	—23	—29
Central Provinces.	—·198	—·146	—·092	—·145	—27	—24	—20	—24
Bombay Deccan.	—·101	—·148	—·132	—·127	—15	—16	—16	—16
Konkan	—·008	—·034	—·065	—·036	— 6	— 3	— 7	— 5
Madras Deccan.	—·107	—·148	—·116	—·124	—13	—18	—14	—15
Mysore	—·004	—·146	—·103	—·084	— 4	—17	—13	—11

The deficiency was throughout most marked in the area including Berar, the Central Provinces, the Bombay and Madras Deccan and Hyderabad. Comparative data are given below for the stations at which the deficiency was greatest :—

Station.	Variation of absolute humidity from normal in				Variation of relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Khandwa	—·217	—·156	—·113	—·162	—30	—25	—23	—26
Akola	—·244	—·169	—·075	—·163	—32	—27	—21	—27
Buldana	—·268	—·226	—·144	—·213	—36	—32	—25	—31
Nagpur	—·178	—·135	—·071	—·128	—23	—22	—16	—20
Sholapur	—·174	—·217	—·163	—·185	—26	—27	—22	—25
Hyderabad (Deccan), Bellary	—·138	—·147	—·107	—·131	—21	—21	—17	—20
Bangalore	—·107	—·148	—·116	—·124	—13	—18	—14	—15
	—·015	—·137	—·105	—·086	— 5	—16	—12	—11

As already stated the excessive dryness in this central area was very similar to the conditions which obtained in

the same drought area in the year 1896 (but much more strongly pronounced), as shown below :—

Station.	Mean of retreating South-West Monsoon period, October to December.			
	1899.		1896.	
	Variation from normal.		Variation from normal.	
	Absolute humidity.	Relative humidity.	Absolute humidity.	Relative humidity.
	"		"	
Khandwa . . .	—·162	—26	—·040	—12
Akola	—·163	—27	—·040	—13
Buldana . . .	—·213	—31	—·076	—14
Nagpur . . .	—·128	—20	+·031	— 2
Sholapur . . .	—·185	—25	?	?
Hyderabad (Deccan) .	—·131	—20	—·016	— 7
Bellary	—·124	—15	—·061	—11
Bangalore . . .	—·086	—11	—·005	— 4

(2) The air was slightly drier throughout the period in the southern half of the Peninsula (to the south of Lat. 14° N) and in North Madras :—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Madras Coast .	+·006	—·067	—·047	—·036	+1	— 6	— 3	—3
South India . .	+·005	—·068	—·089	—·051	—1	—10	—11	—7

(3) The air was much drier than usual at almost all the hill stations in Northern India throughout the period as is shown by the following data :—

Station.	Variation of absolute humidity from normal in				Variation of relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Leh . . .	+·005	+·025	—·019	+·004	+ 5	+ 9	—15	0
Srinagar . .	+·072	+·044	+·030	+·049	+ 2	+ 5	+ 5	+ 4
Simla . . .	—·070	—·032	—·025	—·042	—13	— 9	— 7	—10
Chakrata . .	—·089	—·052	—·029	—·057	—20	—16	—12	—16
Ranikhet . .	—·096	—·061	—·040	—·066	—19	—14	—13	—15
Mount Abu . .	—·115	—·020	+·003	—·044	—20	— 7	— 6	—11

(4) The humidity conditions of the period were practically normal in Burma and North-Eastern India as shown below :—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Port Blair . .	+·031	—·068	—·038	—·025	—1	—2	—1	—1
Burma . .	+·012	—·047	—·090	—·042	—4	—3	—8	—5
Bengal . .	—·016	—·060	—·004	—·027	—1	—3	—1	—2
Orissa . .	+·040	—·002	+·054	+·031	+3	+2	+2	+2
Bihar . . .	+·028	+·001	+·011	+·013	0	+1	+2	+1

(5) The air contained the normal amount of aqueous vapour in Persia and Baluchistan as is shown by the following statement :—

Station.	8 A.M. absolute humidity.				
	Actual, October.	Actual, November.	Actual, December.	Mean actual of period November and December.	Variation from normal of period November and December.
	"	"	"	"	"
Baghdad . . .	·401	·320	·232	·276	—·022
Bushire . . .	·679	·501	·341	·421	—·009
Teheran . . .	·259	·210	·146	·178	—·001
Ispahan . .	·350	·250	·150	·200	+·005
Muscat . . .	·701	·671	·578	·625	+·014
Kabul . . .	·187	·178	?	?	?
Quetta . . .	·204	·185	·183	·184	+·013

Humidity was above the average to a slight extent in that area, as is shown below :—

Station.	8 A.M. relative humidity.				
	Actual, October.	Actual, November.	Actual, December.	Mean actual of period November and December.	Variation from normal of period November and December.
	%	%	%	%	
Baghdad . . .	52	74	81	78	+1
Bushire . . .	65	74	73	74	+3
Teheran . . .	44	62	64	63	+2
Ispahan . . .	71	85	81	83	+4
Muscat . . .	59	67	67	67	—3
Quetta . . .	48	58	76	67	+9

The year.—The mean variations for the whole year are given in the final columns of the Tables VIII and IX.

The following are the more important features of the humidity conditions of the year 1899 in India:—

1st.—The year was slightly drier than usual. The mean humidity of the whole of India for the year was 5 below the normal. The deficiency in 1899 was partly a result of the high temperature of the year, and partly of a deficiency in the amount of aqueous vapour which on the mean of the year was ·026″ below the normal. These variations are the largest that have occurred during the past 25 years.

2nd.—The variations of the mean humidity conditions were small to moderate in Burma, North-Eastern India and the frontier districts. The following gives data in illustration:—

Area.	Mean variation from normal in 1899 of	
	Mean absolute humidity.	Mean relative humidity.
	″	
Burma	—·003	+1
Bengal	0	—1
Orissa	+·032	+1
Bihar	+·019	+2
Chota Nagpur	—·021	—5

3rd.—On the mean of the year the aqueous vapour pressure and humidity were in large defect over by far the greater part of the area wholly dependent on the Bombay current for its south-west monsoon rainfall, including the Punjab, Rajputana, Central India, Berar, North Bombay, the Central Provinces and Deccan. The mean humidity of the year was normal in three of the divisions given in Table XI and 3 or upwards below the normal in the areas for which variation data are given below:—

Area.	Mean variation from normal in 1899 of	
	Mean absolute humidity.	Mean relative humidity.
	″	
Baluchistan	—·030	— 7
North-West Himalayas	—·008	— 3
Punjab Plains	—·050	— 8
Gangetic Plain	—·024	— 4
Western Rajputana	—·021	— 5
Eastern Rajputana and Central India.	—·037	—10
Nerbudda Valley	—·096	—15
Chota Nagpur.	—·021	— 5
Central Provinces (South) and Berar.	—·058	—10
Konkan.	—·039	— 5
Deccan, Hyderabad and Mysore.	—·048	— 6

The deficiency was most marked in the area represented by the stations for which data are given below:—

Station.	Mean variation from normal in 1899 of	
	Absolute humidity.	Relative humidity.
	″	
Buldana	—·113	—16
Khandwa	—·096	—15
Sholapur	—·081	—11
Akola	—·070	—12
Deesa	—·079	—10

The following gives the mean annual variation of the mean aqueous vapour pressure and humidity of the whole of India from the normal for each year from 1875 to 1899:—

Year.	Annual variation of pressure of vapour.	Annual variation of relative humidity.
	″	
1875	—·004	+1
1876	—·017	—1
1877	+·011	+1
1878	+·020	0
1879	—·014	—1
1880	—·004	0
1881	+·001	0
1882	—·008	0
1883	—·013	—1
1884	—·012	0
1885	+·001	0
1886	+·008	+1
1887	—·012	—1
1888	—·005	—1
1889	+·003	—1
1890	—·003	—1
1891	—·007	0
1892	—·002	—1
1893	+·007	+3
1894	+·013	+2
1895	+·003	0
1896	—·010	—3
1897	+·005	—1
1898	—·008	—2
1899	—·026	—5

Cloud.

Normal values of the mean monthly and annual amount of cloud at second class stations, obtained from the whole of the available data up to the end of the year 1896, were given in Table XXI of the Annual Summary of 1896. These means are the means of the cloud amounts as registered at 10 A.M. and 4 P.M., and hence represent the mean amount during the day period rather than of the whole 24 hours. Corrections to reduce these means to true daily means have only been obtained in the case of a few stations.

Variation data of this element of meteorological observation for the year 1899 are given in Tables XIV, XV and XVI. Table XV gives the mean variation data for the eighteen meteorological areas adopted in the geographical summaries of meteorological data in the Annual Reports previous to 1891, and Table XVI gives similar data for ten meteorological provinces of India.

TABLE XIV.—*Comparison of the mean cloud proportion in each month of 1899 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands.	Port Blair	+1·0	−1·3	−0·2	+2·2	+0·6	+0·8	+0·2	+0·4	+1·0	+0·2	+0·4	+0·8	+0·5
	Rangoon	−0·2	−1·1	−1·7	+1·6	+1·6	+0·3	+0·5	+0·5	+0·1	−0·6	−0·8	−1·5	−0·1
	Diamond Island.	−0·3	−1·0	−1·9	−0·6	+0·7	−0·2	+0·2	+0·7	+0·6	−0·3	−0·4	−2·0	−0·4
	Cocos Island.	−0·1	−0·6	−1·1	+1·1	+0·4	−1·0	−0·9	−0·2	+0·3	+0·6	+0·6	+0·3	−0·1
	Akyab	−0·5	+0·7	−0·6	+0·6	+2·6	+0·9	+0·2	−0·3	−0·1	+0·2	+0·7	−1·0	+0·3
	Chittagong	−0·4	+0·3	−1·4	0	+1·7	−0·5	−0·4	+0·4	−0·3	−0·4	−1·3	−1·0	−0·3
Bengal and Orissa.	Calcutta (Alipore).	+0·5	+0·1	−1·5	+1·1	+1·7	+1·5	+0·5	+0·1	−0·4	+0·2	−1·2	−0·4	+0·2
	Saugor Island	+0·6	+1·2	−1·3	+0·1	+1·4	+0·6	+1·0	+0·7	+0·5	+0·5	−0·6	−0·6	+0·3
	False Point	+1·3	+2·2	−1·5	+0·9	+0·8	+1·2	+0·3	+0·3	−1·2	−0·3	−1·4	+0·5	+0·3
Gangetic Plain and Chota Nagpur.	Hazaribagh	0	+0·1	−1·8	+2·3	+3·1	+1·9	+0·7	+0·9	−0·5	−0·5	−2·2	−0·4	+0·3
	Darbhanga	+0·4	−0·4	−0·9	0	+1·0	+0·5	+0·7	−0·3	−1·8	−0·6	−0·6	−0·6	−0·2
	Allahabad	−0·1	−0·1	−1·3	+0·2	0	+1·4	+1·5	−0·4	−2·0	−1·2	−0·9	−0·6	−0·3
Upper Sub-Himalayas.	Dehra Dun	−0·1	−0·8	−1·0	+0·3	−0·4	+0·6	−0·1	−2·9	−3·6	−0·8	+0·3	−0·3	−0·7
	Roorkee	−1·8	−0·6	−0·1	−0·7	−0·4	+1·1	−0·5	−4·0	−3·1	−0·6	+0·3	−1·0	−1·0
	Meerut	−2·0	−1·0	−1·0	+0·2	+3·3	+2·3	+1·3	−1·8	−2·8	−0·3	+0·4	−1·1	−0·2
	Lahore	−1·8	−0·5	+0·1	−0·5	−1·4	−0·5	−1·8	−2·0	+3·8	+0·2	+1·2	0	−0·3
	Ludhiana	−1·4	−0·7	−0·5	0	−2·0	−0·7	−2·7	−3·2	−2·5	+0·2	+1·5	−0·5	−1
Indus Valley and North West Rajputana.	Peshawar	−1·7	−3·9	+0·5	−1·4	−0·1	−0·7	−0·4	−0·6	+0·1	+0·6	+1·0	+0·5	−0·5
	Jacobabad	−1·8	−1·1	+0·1	−1·3	−0·4	+0·2	−2·0	−1·7	−0·6	+0·3	+0·9	+1·3	−0·5
	Kurrachee	−1·6	−1·4	−1·4	−1·0	−0·5	−0·9	−1·6	−1·3	−1·4	−0·8	−0·4	+0·2	−1·0
East Rajputana, Central India and Gujarat.	Jaipur	−1·5	−0·6	−1·1	−0·1	+0·7	+0·4	−0·6	−3·6	−0·7	−0·6	−0·5	+0·1	−0·7
	Deesa	−1·7	−1·2	−2·0	−1·4	−1·0	−1·3	−0·4	−2·6	−2·6	−0·9	−1·3	−0·2	−1·4
Deccan	Belgaum	−1·0	+0·4	−0·8	+1·1	+0·1	+0·4	−0·9	−1·5	−0·2	−2·2	−2·6	−1·6	−0·7
	Sholapur	−1·0	+0·5	−0·6	+0·9	+0·6	+0·8	−0·1	−1·5	−1·1	−2·5	−2·7	−1·7	−0·7
	Poona	−1·3	+0·3	−1·2	+0·6	+0·7	−0·1	−0·4	−1·8	−1·5	−0·3	−1·3	−0·2	−0·5

TABLE XIV.—*Comparison of the mean cloud proportion in each month of 1899 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Deccan —*concld.*	Akola	−1·1	+0·8	−1·1	+1·6	+0·8	−0·3	−0·3	−1·0	−1·7	−0·9	−1·1	+0·6	−0·3
	Buldana	−1·9	+0·1	−1·7	+0·3	−0·7	+0·9	+0·9	−0·6	−2·0	−1·1	−1·6	−0·5	−0·7
	Khandwa	−1·3	+0·2	−1·2	+0·6	−0·1	+0·6	+0·6	−0·9	−1·5	−0·5	−1·1	+0·3	−0·4
	Nagpur	−0·9	+0·8	−1·0	+1·9	+1·5	0	0	−0·4	−1·4	−1·6	−1·8	−0·3	−0·3
	Hyderabad (Deccan).	−0·4	+0·1	−1·0	+1·3	+0·6	+0·5	−0·3	+0·1	−0·5	−1·4	−1·9	−1·1	−0·3
West Coast	Bombay	−0·9	+0·3	−1·2	−0·2	−0·5	−0·3	−0·5	−1·8	−2·5	−2·2	−1·6	−0·8	−1·0
	Karwar	−0·3	0	+0·4	+1·2	+0·5	−0·1	−1·1	−2·2	−0·3	−0·9	−1·9	−1·1	−0·5
South India	Salem	+0·9	+0·3	−1·2	+1·8	+0·3	+0·4	−0·8	−0·7	+0·3	+1·2	−1·2	−1·2	0
	Chitaldroog	+0·6	+0·6	−1·3	+1·6	+0·6	+0·2	−0·5	−1·2	−0·3	−0·7	−2·7	−1·4	−0·4
	Bangalore	−0·2	−0·5	−1·3	+1·5	+0·2	+1·6	+0·6	+0·4	+1·0	+0·4	−3·1	−1·7	−0·1
	Hassan	+0·2	+1·1	−1·1	+1·1	+0·9	+0·4	−0·7	−1·1	+0·5	+0·4	−3·2	−1·0	−0·2
	Mysore	+1·1	+2·0	+0·6	+2·0	+1·8	+1·5	+0·3	+0·2	+0·4	+2·1	−3·2	−0·1	+0·7
	Madras	+0·6	0	−0·7	+1·0	+0·4	+0·8	−1·7	+0·3	−0·4	+0·7	−1·2	−0·8	−0·1
	Bellary	+1·1	+1·8	+0·2	+3·5	+1·5	+1·1	+0·4	+0·5	+0·5	+0·1	−0·9	−0·6	+0·8
	Cocanada	−0·1	−0·1	−0·3	+1·3	0	−0·2	−0·4	−0·1	−0·1	+1·3	+0·2	0	+0·1
	Vizagapatam	+1·0	+1·2	−0·8	+1·7	+0·7	+1·6			Observatory closed				
Hill Station, Baluchistan.	Quetta	−1·2	+0·7	+0·6	−0·5	+0·6	+0·1	−0·7	−0·1	−0·1	+0·6	+1·8	+2·0	+0·3
Hill Stations, Northern India.	Leh	−1·1	−0·8	−0·4	+0·8	−1·1	−1·0	−0·8	−0·8	−0·7	−0·3	+0·8	+0·1	−0·4
	Srinagar	−0·4	+1·4	−0·1	+1·0	+0·4	−1·4	−0·2	−0·7	−0·7	−0·4	+1·8	−0·1	+0·1
	Kailang	−0·7	−0·6	+0·5	+0·7	+0·1	−0·3	−0·2	−1·0	+0·1	+0·2	+1·3	+0·7	+0·1
	Simla (Ridge)	−1·3	−0·7	+0·1	+0·2	−0·8?	−0·6	+0·3	−2·2	−4·1	−0·7	+1·1	−0·6	−0·8
	Chakrata	−0·8	−0·5	−0·6	0	−0·3	+0·8	+1·0	−1·3	−3·6	−0·9	+0·4	−0·5	−0·5
	Ranikhet	−0·7	−1·0	−1·4	−0·5	−0·7	+0·4	+0·4	−1·8	−3·5	−1·1	+0·1	−0·8	−0·9
	Katmandu	−0·4	−0·6	−1·8	−1·3	−0·9	+0·4	+0·8	+0·2	−0·5	−0·9	+0·6	−0·9	−0·4
	Darjeeling	+0·1	+0·7	+0·5	−1·4	−0·9	+1·1	+0·8	+0·1	−0·2	−0·1	−0·3	−0·3	0
Hill Stations, Central India.	Mount Abu	−1·8	−1·6	−2·0	−0·9	−0·8	−0·7	−0·6	−2·2	−2·0	−0·7	−1·2	+0·3	−1·2
	Pachmarhi	−1·1	+0·2	−1·1	+1·3	+1·3	+0·8	−0·1	−1·1	−2·8	−1·3	−1·4	0	−0·4
	Chikalda	−1·7	−0·1	−1·6	+1·2	+1·1	−0·1	−1·5	−2·0	−2·6	−1·7	−1·9	−1·1	−1·0
Hill Station, South India.	Wellington	0	−0·2	−1·5	+1·8	0	+0·3	−1·1	−0·3	+0·4	+1·2	−2·7	−2·1	−0·4
Extra India	Aden	+1·2	+1·0	−0·4	+0·1	+1·6	+3·0	+1·1	+1·6	+0·6	0	+1·1	+0·6	+1·0
	Perim	+0·4	+1·3	−0·2	−0·4	+0·2	+0·9	+0·4	+1·1	+0·6	+0·4	+1·6	+0·6	+0·6
	Zanzibar	+1·2	+1·3	+1·4	+1·4	+1·7	+0·9	+2·3	+0·8	−0·8	+0·7	−1·2	+2·4	+1·0
	Port Victoria (Seychelles).	0	−1·1	−1·2	−0·6	+0·5	−1·4	−0·3	−0·5	−0·1	−0·2	−1·1	−0·5	−0·5

TABLE XV.—*Geographical summary of the cloud data of Table II in the monthly weather reviews of 1899.*

Meteorological Area.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North-West Himalayas	6	—0·8	—0·4	—0·3	+0·4	—0·4	—0·4	+0·1	—1·3	—2·1	—0·5	+0·9	—0·2	—0·4
Sikkim Himalaya and Nepal.	2	—0·2	+0·1	—0·7	—1·4	—0·9	+0·8	+0·8	+0·2	—0·4	—0·5	+0·2	—0·6	—0·2
Punjab Plains . .	3	—1·6	—1·7	0	—0·6	—1·2	—0·6	—1·6	—1·9	+0·5	+0·3	+1·2	0	—0·6
Gangetic Plain. .	5	—0·7	—0·6	—0·9	0	+0·7	+1·2	+0·6	—1·9	—2·7	—0·7	—0·1	—0·7	—0·5
Western Rajputana .	4	—1·7	—1·3	—1·3	—1·2	—0·7	—0·7	—1·2	—2·0	—1·7	—0·5	—0·5	+0·4	—1·0
Eastern Rajputana and Central India.	1	—1·5	—0·6	—1·1	—0·1	+0·7	+0·4	—0·6	—3·6	—0·7	—0·6	—0·5	+0·1	—0·7
Nerbudda Valley .	1	—1·3	+0·2	—1·2	+0·6	—0·1	+0·6	+0·6	—0·9	—1·5	—0·5	—1·1	+0·3	—0·4
Chota Nagpur . .	1	0	+0·1	—1·8	+2·3	+3·1	+1·9	+0·7	+0·9	—0·5	—0·5	—2·2	—0·4	+0·3
Lower Bengal . .	2	+0·6	+0·7	—1·4	+0·6	+1·6	+1·1	+0·8	+0·4	+0·1	+0·4	—0·9	—0·5	+0·3
Orissa . . .	1	+1·3	+2·2	—1·5	+0·9	+0·8	+1·2	+0·3	+0·3	—1·2	—0·3	—1·4	+0·5	+0·3
Central Provinces (South) and Berar	5	—1·3	+0·4	—1·3	+1·3	+0·8	+0·3	—0·2	—1·0	—2·1	—1·3	—1·6	—0·3	—0·5
Konkan . . .	2	—0·6	+0·2	—0·4	+0·5	0	—0·2	—0·8	—2·0	—1·4	—1·6	—1·8	—1·0	—0·8
Deccan, Hyderabad and Mysore.	9	—0·1	+0·7	—0·7	+1·5	+0·8	+0·7	—0·2	—0·7	—0·1	—0·5	—2·4	—1·0	—0·2
East Coast and Carnatic.	3—4	+0·6	+0·4	—0·8	+1·5	+0·4	+0·7	—1·0	—0·2	—0·1	+1·1	—0·7	—0·7	+0·1
Arakan and Pegu .	4	—0·4	—0·3	—1·4	+0·4	+1·7	+0·1	+0·1	+0·3	+0·1	—0·3	—0·5	—1·4	—0·1
Bay Islands . .	2	+0·5	—1·0	—0·7	+1·7	+0·5	—0·1	—0·4	+0·1	+0·7	+0·4	+0·5	+0·6	+0·2
Extra-Tropical India	25—26	—0·8	—0·5	—0·8	—0·1	0	+0·3	—0·1	—1·3	—1·4	—0·4	0	—0·2	—0·4
Tropical India .	26—27	—0·3	+0·2	—0·9	+1·2	+0·7	+0·4	—0·3	—0·6	—0·5	—0·4	—1·5	—0·8	—0·2
Whole India . .	51—53	—0·5	—0·1	—0·9	+0·6	+0·4	+0·3	—0·2	—0·9	—0·8	—0·4	—0·7	—0·5	—0·3

TABLE XVI.—*Variations of the mean cloud amount from the normal in 1899 in nine meteorological provinces of India.*

Meteorological Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands	0	—0·7	—1·1	+1·0	+1·4	+0·2	+0·3	+0·3	+0·4	—0·1	0	—0·9	+0·1
Bengal and Orissa . .	+0·5	+1·0	—1·4	+0·5	+1·4	+0·7	+0·4	+0·4	—0·4	0	—1·1	—0·4	+0·1
Gangetic Plain and Chota Nagpur.	+0·1	—0·1	—1·3	+0·8	+1·4	+1·3	+1·0	—0·1	—1·4	—0·8	—1·2	—0·5	—0·1
Upper Sub-Himalayas . .	—1·4	—0·7	—0·5	—0·1	—0·2	+0·6	—0·8	—2·8	—1·6	—0·3	+0·7	—0·6	—0·6
Indus Valley and North-West Rajputana.	—1·7	—2·1	—0·3	—1·2	—0·3	—0·5	—1·3	—1·2	—0·6	0	+0·5	+0·7	—0·7
East Rajputana, Central India and Gujarat.	—1·6	—0·9	—1·6	—0·8	—0·2	—0·5	—0·5	—3·1	—1·7	—0·8	—0·9	—0·1	—1·1
Deccan	—1·1	+0·4	—1·1	+1·0	+0·4	+0·4	—0·1	—1·0	—1·2	—1·3	—1·8	—0·6	—0·5
West Coast	—0·6	+0·2	—0·4	+0·5	0	—0·2	—0·8	—2·0	—1·4	—1·6	—1·8	—1·0	—0·8
South India	+0·6	+0·7	—0·7	+1·7	+0·7	+0·8	—0·4	—0·3	+0·2	+0·7	—1·9	—0·9	+0·1

I.—The cold weather period.—Weather was less disturbed than usual in January. A large number of depressions affected the weather in North-Western India in February. They were, however, very feeble and gave rise to much less development of cloud than generally occurs in the cold weather. There was hence less cloud than usual in the whole of North-Western and Central India and also in Lower Burma. Cloud was normal on the mean of the period in Bihar. The following gives data for the areas of decreased cloud in the cold weather and also for Bihar:—

Area.	Variation of mean cloud amount from normal in		
	January.	February.	Period January and February.
Punjab	−1·6	−1·7	−1·7
Sind	−1·7	−1·3	−1·5
Rajputana	−1·6	−0·9	−1·3
North-Western Provinces	−1·0	−0·6	−0·8
Bihar	+0·4	−0·4	•
Burma (Lower)	−0·3	−1·1	−0·7

The deficiency was as marked at the hill stations in Northern India as in the neighbouring plains, as shown below:—

Station.	Variation of cloud amount from normal in		
	January.	February.	Period January and February.
Leh	−1·1	−0·8	−1·0
Kailang	−0·7	−0·6	−0·7
Simla	−1·3	−0·7	−1·0
Ranikhet	−0·7	−1·0	−0·9
Mount Abu	−1·8	−1·6	−1·7

The decreased cloud amount was on the whole most marked in the North and East Punjab and the north-west districts of the North-Western Provinces at the stations for which data are given below:—

Station.	Variation of cloud amount from normal in		
	January.	February.	Period January and February.
Peshawar	−1·7	−3·9	−2·8
Lahore	−1·8	−0·5	−1·2
Roorkee	−1·8	−0·6	−1·2
Meerut	−2·0	−1·0	−1·5

The amount of cloud was slightly greater than usual in the southern half of the Peninsula, Ganjam, Orissa and Bengal, as shown below:—

Area.	Variation of mean cloud amount from normal in		
	January.	February.	Period January and February.
Mysore	+0·4	+0·8	+0·6
South India	+0·9	+0·3	+0·6
Madras (Central)	+1·1	+1·8	+1·5
Orissa	+1·3	+2·2	+1·8
Bengal	+0·2	+0·5	+0·4
Ganjam	+1·0	+1·2	+1·1

The excess was moderately large in the areas represented by the stations for which data are given below:—

Station.	Variation of cloud amount from normal in		
	January.	February.	Period January and February.
Vizagapatam	+1·0	+1·2	+1·1
False Point	+1·3	+2·2	+1·8
Saugor Island	+0·6	+1·2	+0·9
Bellary	+1·1	+1·8	+1·5
Mysore	+1·1	+2·0	+1·6
Hassan	+0·2	+1·1	+0·7

Over the remainder of India the variations were small in amount due to the fact that they were opposite in character in the two months. The following gives data for that area:—

Area.	Variation of mean cloud amount from normal in		
	January.	February.	Period January and February.
Central Provinces	−1·1	+0·5	−0·3
Berar	−1·5	+0·5	−0·5
Bombay Deccan	−1·1	+0·4	−0·4
Hyderabad	−0·4	+0·1	−0·2
Konkan	−0·6	+0·2	−0·2

II.—The hot weather period.—March and May were very dry months in North-Western India, and there was hence much less cloud than usual. Weather in April was more disturbed than usual in North-Eastern India and the Peninsula. Cloud was in marked excess in that month as well as in May in those two areas, due to the large influx of local sea winds.

The following is a summary of the chief abnormal features of the distribution of cloud during this season:—

(1) There was less cloud than usual during the period in Upper India. The following gives data:—

Area.	Variation of mean cloud amount from normal in			
	March.	April.	May.	Period March to May.
Punjab	0	−0·6	−1·2	−0·6
Sind	−0·7	−1·2	−0·5	−0·8
Rajputana	−1·6	−0·8	−0·2	−0·9

The variations in the amount of cloud at the hill stations in Upper India were generally similar to those in the adjacent plains, but were small on the mean of the period:—

Station.	Variation of cloud amount from normal in			
	March.	April.	May.	Period March to May.
Quetta	+0·6	−0·5	+0·6	+0·2
Leh	−0·4	+0·8	−1·1	−0·2
Kailang	+0·5	+0·7	+0·1	+0·4
Srinagar	−0·1	+1·0	+0·4	+0·4
Simla	+0·1	+0·2	−0·8?	−0·2?
Chakrata	−0·6	0	−0·3	−0·3
Ranikhet	−1·4	−0·5	−0·7	−0·9

(2) Cloud was in moderate to considerable defect in March over the remainder of India, but was more or less in excess in April and May.

The following gives data:—

Area.	Variation of mean cloud amount from normal in			
	March.	April.	May.	Period March to May.
North-Western Provinces	−0·9	0	+0·6	−0·1
Bihar	−0·9	0	+1·0	0
Chota Nagpur	−1·8	+2·3	+3·1	+1·2
Bengal	−1·4	+0·4	+1·6	+0·2
Orissa	−1·5	+0·9	+0·8	+0·1
Burma	−1·4	+0·5	+1·6	+0·2
Berar	−1·4	+1·0	+0·1	−0·1
Central Provinces	−1·1	+1·3	+0·7	+0·3
Bombay Deccan	−0·9	+0·9	+0·5	+0·2
West Coast	−0·4	+0·5	0	0
Madras Deccan	−0·4	+3·5	+1·1	+1·4
Madras Coast	−0·6	+1·3	+0·4	+0·4

(3) Cloud was in large excess in the south-east of the Bay, as represented by Port Blair in April, and was about normal in March and May, as shown below:—

Station.	Variation of cloud amount from normal in			
	March.	April.	May.	Period March to May.
Port Blair	−0·2	+2·2	+0·6	+0·9

III.—The south-west monsoon period.—The variations in the distribution of cloud from the normal during this period were very strongly marked. The south-west monsoon currents advanced over the Arabian Sea and Bay of Bengal about the normal time and extended over the interior of India more rapidly than usual. There was hence more cloud than usual in June over nearly the whole of the interior of Northern and Central India and the Bay, but less in the West Coast districts. The Bombay current fell off rapidly in strength during the last week of June, and was extremely feeble as a rain-giving current during the remainder of the period. Cloud was hence below the normal to a marked extent from July to September over the whole area dominated by the Bombay current.

The Bay current was of full strength in July, but decreased in vigour in August and September and was determined more to the east than usual. Cloud was hence in large excess in North-Eastern India in July and in slight excess in August. In September cloud was in defect in that area as over the remainder of India.

The following gives the chief features of the cloud distribution and its variations from the normal during the period :—

(1) Cloud was in slight defect in the West Coast districts and in the Punjab in June, as shown below :—

Area or Station.	Mean cloud amount.		
	Actual, June.	Normal, June.	Variation from normal.
Kurrachee	3·4	4·3	−0·9
Bombay	7·5	7·8	−0·3
Karwar	7·0	7·1	−0·1
Punjab	2·2	2·8	−0·6

(2) Cloud was in slight to moderate excess over the remainder of India in June. The following gives data in illustration ;—

Area.	Mean cloud amount.		
	Actual, June.	Normal, June.	Variation from normal.
Burma	8·4	8·1	+0·3
Bengal	8·0	7·5	+0·5
Bihar	5·2	4·7	+0·5
North-Western-Provinces	5·3	3·9	+1·4
Central Provinces	6·9	6·6	+0·3
Berar	6·8	6·5	+0·3
Deccan	7·8	7·3	+0·5
South India	6·4	6·0	+0·4

(3) Cloud was in marked defect over the whole area usually dependent upon the Bombay current from July to September. The following gives variation data of this area for this period :—

Area.	Variation of mean cloud amount from normal in			Mean of period July to September	
	July.	August.	September.	Actual.	Variation from normal.
Punjab	−1·6	−1·9	+0·5	2·5	−1·0
Sind	−1·8	−1·5	−1·0	2·3	−1·4
Rajputana	−0·5	−3·1	−1·7	4·9	−1·8
Berar	+0·3	−0·8	−1·9	6·9	−0·8
Central Provinces	+0·3	−0·7	−1·5	7·0	−0·6
West Coast	−0·8	−2·0	−1·4	6·3	−1·4
Deccan	−0·3	−0·8	−0·6	7·4	−0·6
South India	−0·8	−0·7	+0·3	5·7	−0·4

The area of greatest deficiency included Rajputana, Sind and the South Punjab in July and August and was transferred to South-West Rajputana, North Bombay, Khandesh and Berar in September.

(4) Cloud was in slight excess on the mean of the period in Bengal, Chota Nagpur and Burma, and also in the Andamans, due to increased cloud in July and August. It was, on the other hand, in slight to moderate defect in the North-Western Provinces, Bihar and Orissa :—

Area.	Variation of mean cloud amount from normal in			
	July.	August.	September.	Period July to September.
North-Western-Provinces	+0·6	−2·3	−2·9	−1·5
Bihar	+0·7	−0·3	−1·8	−0·5
Chota Nagpur	+0·7	+0·9	−0·5	+0·4
Bengal	+0·4	+0·4	−0·1	+0·2
Orissa	+0·3	+0·3	−1·2	−0·2
Burma	+0·3	+0·3	+0·2	+0·3
Port Blair	+0·2	+0·4	+1·0	+0·5

(5) The decreased cloud amount was very strongly marked at the hill stations in the North-Western Himalayas in August and September, more especially in the latter month, which was an exceptionally five month at most of these hills districts and the cloud

amount smaller than in the corresponding months of the past 25 years. The following gives data:—

Station.	Variation of cloud amount from normal in			Mean of period July to September.	
	July.	August.	September.	Actual.	Variation from normal.
Leh	−0·8	−0·8	−0·7	3·4	−0·8
Kailang	−0·2	−1·0	+0·1	4·9	−0·4
Simla	+0·3	−2·2	−4·1	1·7	−2·0
Chakrata	+1·0	−1·3	−3·6	2·7	−1·3
Ranikhet	+0·4	−1·8	−3·5	2·5	−1·6

The following gives the mean actual cloud amount at these stations, month by month, during the period:—

Station.	Actual cloud amount in			Mean of period July to September.
	July.	August.	September.	
Leh	4·3	4·4	3·4	4·0
Kailang	6·2	5·5	4·9	5·5
Simla	9·1	6·7	1·7	5·8
Chakrata	9·4	7·3	2·7	6·5
Ranikhet	8·9	6·9	2·5	6·1

IV.—The retreating monsoon period.—The south-west monsoon currents retreated slightly earlier than usual from North-East India and considerably earlier from the Deccan. From the fourth week of October the retreating monsoon current was chiefly determined to the south-west of the Bay and Southern India, and withdrew from the Bay in the fourth week of November, or the first week of December, and hence considerably earlier than usual. A large number of feeble depressions appeared in the Persian area and Upper India during the period, but were generally rainless in the Punjab plains, although they gave frequent cloud. Weather was very disturbed, with much cloud, in the Punjab plains and with heavy rain or snow in the hills during the last week of December. The following gives the chief features of the amount of cloud during the period:—

(1) Cloud was throughout the period in slight to considerable excess in Baluchistan and Upper India, as shown below:—

Area.	Variation of mean cloud amount from normal in			
	October.	November.	December.	Period October to December.
Baluchistan (Quetta)	+0·6	+1·8	+2·0	+1·5
Sind	−0·3	+0·3	+0·8	+0·3
Punjab	+0·3	+1·2	0	+0·5

(2) The variations in the hill districts in Upper India were, on the whole, similar to those of the adjacent plains, but less pronounced, as is shown by the following data:—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period October to December.
Leh	−0·3	+0·8	+0·1	+0·2
Simla	−0·7	+1·1	−0·6	−0·1
Chakrata	−0·9	+0·4	−0·5	−0·3
Ranikhet	−1·1	+0·1	−0·8	−0·6
Mount Abu	−0·7	−1·2	+0·3	−0·5

(3) Cloud was in persistent defect throughout the whole period over the remainder of India excepting Southern India and the Madras coast districts.

The following gives comparative data:—

Area.	Variation of mean cloud amount from normal in			
	October.	November.	December.	Period October to December.
Burma	−0·2	−0·2	−1·5	−0·6
Bengal	+0·1	−1·0	−0·7	−0·3
Bihar	−0·6	−0·6	−0·6	−0·6
Chota Nagpur	−0·5	−2·2	−0·4	−1·0
North-Western Provinces.	−0·7	0	−0·8	−0·5
Rajputana	−0·8	−0·9	−0·1	−0·6
Central Provinces	−1·1	−1·5	0	−0·9
Berar	−1·0	−1·4	+0·1	−0·8
Bombay Deccan	−1·7	−2·2	−1·2	−1·7
Madras Deccan	+0·1	−0·9	−0·6	−0·5
Konkan	−1·6	−1·8	−1·0	−1·5

The deficiency was most marked at stations in the area for which data are given below:—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period October to December.
Bombay	−2·2	−1·6	−0·8	−1·5
Nagpur	−1·6	−1·8	−0·3	−1·2
Sholapur	−2·5	−2·7	−1·7	−2·3
Belgaum	−2·2	−2·6	−1·6	−2·1
Hyderabad (Deccan)	−1·4	−1·9	−1·1	−1·5

(4) There was more cloud than usual in Southern India and the Madras coast districts in October, but less in November and December. Cloud was throughout in excess at Port Blair, as is shown by the following data:—

Area or Station	Variation of mean cloud amount from normal in			
	October.	November.	December.	Period October to December.
Port Blair	+0·2	+0·4	+0·8	+0·5
Madras Coast	+1·0	−0·5	−0·4	0
Mysore	+0·6	−3·1	−1·1	−1·2
South India	+1·2	−1·2	−1·2	−0·4

(5) Cloud was considerably above the normal in Persia and slightly above in Arabia, as is shown below:—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period October to December.
Baghdad	+2·0	+1·5	+1·9	+1·8
Bushire	+0·1	+3·3	+1·6	+1·7
Aden	0	+1·1	+0·6	+0·6
Muscat	+0·3	−0·8	+1·9	+0·5

The year.—The mean cloud amount of the year in India was 0·3 below the normal. The variations in Tropical India and Extra-Tropical India and also of the whole of India for each of the four periods of the year are given below:—

Area.	Variation of mean cloud amount from normal in				
	I. Period.	II. Period.	III. Period.	IV. Period.	Whole year.
Extra-Tropical India	−0·7	−0·3	−0·6	−0·2	−0·4
Tropical India	−0·1	+0·3	−0·3	−0·9	−0·2
Whole India	−0·3	0	−0·4	−0·5	−0·3

The following table gives the variation of the mean amount of cloud in the Indian area, year by year, from 1875 to 1899:—

Year.	Amount of variation.	Year.	Amount of variation.
1875	0	1888	−0·1
1876	−0·2	1889	+0·1
1877	+0·3	1890	+0·2
1878	+0·1	1891	+0·1
1879	−0·1	1892	+0·1
1880	−0·1	1893	+0·5
1881	−0·1	1894	+0·5
1882	0	1895	+0·1
1883	+0·1	1896	−0·2
1884	−0·1	1897	0
1885	+0·2	1898	−0·2
1886	+0·2	1899	−0·3
1887	−0·1		

Rainfall.

The rainfall data of India are now issued in a separate volume. The ninth volume, that of 1899, contains the rainfall data of 2,288 stations, which are classified under their respective administrative divisions according to the following scheme :—

Province.	Number of stations.
Burma	147
Assam	115
Bengal, Bihar, Chota Nagpur and Orissa	350
North-Western Provinces and Oudh	279
Punjab	211
Bombay	278
Madras	370
Coorg	10
Central Provinces	66
Berar	44
Mysore	78
Baluchistan	48
Kashmir	21
Rajputana	134
Central India	61
Hyderabad (Deccan)	23
Travancore	39
Cochin	3
Pudukota	11

The volume contains the whole of the available information for the year 1899 of this important element of meteorological observation.

The information includes monthly statements of—

(*a*) the actual rainfall, day by day, of all the rainfall stations;

(*b*) the total rainfall of the month;

(*c*) the number of rainy days during the month;

(*d*) the average or normal rainfall of the month for all stations for which rainfall data of at least five years are available;

(*e*) the average or normal number of rainy days of the month for all stations for which rainfall data of five years or upwards are available;

(*f*) the accumulated rainfall (up to the date of each statement) throughout each of the seasons into which the year is divided.

Symons's rain-gauges are now used at all rain-gauge stations, with the exception of those in Mysore. The hour of measuring rainfall is 8 A.M. throughout India, and the amounts registered give the rainfall of the previous 24 hours, and hence generally of the previous civil day.

In Table XXV of the Annual Summary for 1896 are given the normal means of rainfall for 535 stations determined from the whole of the available data down to December 1896. The stations for which the means are given were selected by Mr. Blanford, and normal means were given in the rainfall sections of the Annual Reports on the Meteorology of India. The last series of means was given in the Annual Report on the Meteorology of India for 1890. The normal means in Table XXV of the Annual Summary for 1896 are based on six years' additional data. This period, however, includes the three years 1892—94 of abnormally heavy rainfall, and hence the means given in this table are in almost all cases higher than those given in Table XXXI of the Annual Report on the Meteorology of India for 1890. The following gives six instances of the considerable apparent increase in the mean rainfall :—

Province.	Station.	Average annual rainfall based on data up to 1890.	Average annual rainfall based on data up to 1896.	Increase in average result.
		Inches.	Inches.	Inches.
Bombay	Lanavla	164·24	172·75	+8·51
Do	Jetalsar	23·60	30·39	+6·79
Bengal and Orissa	Keonjhar	31·29	37·98	+6·69
Do	Narsingpur	39·02	44·72	+5·70
Do	Bispara	49·69	55·07	+5·38
Central Provinces	Sarangarh	50·50	55·84	+5·34

Table XVII gives the variations of the monthly and annual rainfall in 1899 of 536 stations in India, Baluchistan and Burma.

The following four tables (Tables XVIII to XXI) give summaries of the rainfall data of the year. In the first two tables (Tables XVIII and XIX) the summaries are drawn up in the form that was used for many years in the Annual Reports issued by the Department and are based on the rainfall returns of 432 selected stations. In the two succeeding tables (Tables XX and XXI) the actual average rainfall data (derived from the returns of 2,288

rain-gauge stations in India) are given for the 57 meteorological districts into which the Empire is divided for the comparison of crops and rainfall for the four periods into which the year may be arranged. The four periods are as follows :—

1st.—From January 1st to February 28th, which forms the period of the cold weather rains of Upper India.

2nd.—From March 1st to May 31st, which includes the hot season, when rain occurs mainly in the coast districts, and in Assam during thunderstorms.

3rd.—From June 1st to October 31st, which forms the period of the south-west monsoon rains proper.

4th.—From November 1st to December 31st, which includes the period of the so-called north-east monsoon rains of Southern India, more especially of the Coromandel coast districts.

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years.*

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inch.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.	Inches.	Inches.
Baluchistan.	Kalat	—1·90	—0·87	—1·08	—0·48	—0·06	—0·21	—0·52	—0·52	—0·05	—0·05	+0·02	—0·01	— 5·73
	Pishin	—2·77	+0·68	+0·33	—0·81	—0·19	—0·06	—0·21	—0·21	—0·01	—0·02	—0·30	—1·09	— 4·66
	Chaman	—1·52	+0·39	—1·06	—0·42	0	—0·22	—0·29	0	0	—0·08	—0·72	—0·15	— 4·07
	Quetta	—2·05	—0·13	+0·34	—0·96	+1·45	—0·14	—0·48	—0·62	—0·13	0	+0·23	—0·21	— 2·70
	Mach	—2·16	—1·73	+0·80	—0·09	+0·13	—1·25	—1·34	—0·41	—0·05	—0·62	—0·15	—0·79	— 7·66
	Beleli	—2·30	—0·61	+0·57	—0·59	—0·32	—0·22	—0·11	—0·56	—0·04	—0·10	—0·46	—0·99	— 5·73
	Kuchlak	—2·53	+0·40	+0·41	—0·68	—0·18	—0·13	—0·19	—0·25	—0·19	+0·02	—0·47	—1·28	— 5·07
	Fort Sandeman	—0·94	+0·33	—0·56	—0·41	+0·08	+0·01	—2·56	—1·48	—0·01	—0·02	—0·45	—0·16	— 6·17
	Bostan	—2·35	—0·37	+0·26	—0·77	—0·07	—0·29	—0·44	—0·26	—0·04	—0·04	—0·44	—1·42	— 6·23
	Yarookarez	—1·76	—0·16	+0·28	—0·54	0	—0·08	—0·02	—0·23	0	—0·03	—0·07	—1·21	— 3·82
	Syad Hamed	—2·22	—0·52	+0·67	—0·41	0	—0·01	0	—0·13	0	—0·05	—0·67	—1·01	— 4·35
	Gulistan	—1·90	+0·27	+0·68	—0·49	—0·13	—0·07	—0·05	0	—0·06	—0·10	—0·56	—1·13	— 3·54
	Killa, Abdulla	—2·30	—0·18	+1·25	—0·50	—0·10	—0·05	—0·13	—0·04	—0·03	—0·15	—0·79	—1·07	— 4·09
	Khanai	—2·33	—0·53	+0·04	—0·81	0	—0·28	—0·25	—0·30	0	—0·11	—0·49	—0·91	— 5·97
	Fuller's Camp	—2·71	—0·79	—0·49	—0·88	—0·22	—0·03	—0·43	—0·22	—0·09	+0·05	—0·78	—0·77	— 7·36
	Kachh	—1·44	+2·93	—0·30	—0·93	+0·13	—0·36	—0·29	—0·23	—0·14	—0·07	—0·94	—0·56	— 2·20
	Mudgorge	—2·57	—0·10	+1·71	—0·41	+0·03	—0·32	—0·33	—0·35	—0·06	—0·08	—0·73	—0·57	— 3·78
	Mangi	—1·12	—0·04	+4·12	—0·64	—0·19	—0·79	—0·46	—0·36	—0·16	—0·13	—0·37	—1·06	— 1·20
	Dirgi	—1·56	—0·29	+3·92	—0·47	+0·10	—0·68	—0·72	—0·39	—0·15	—0·09	—0·21	—1·27	— 1·81
	Khost	—2·30	—1·11	+3·32	—0·21	+0·33	—0·67	—1·32	+0·07	—0·24	—0·29	—0·76	—1·36	— 4·54
	Shahrig	—2·51	+4·95	+1·77	—0·23	—0·48	—1·07	—2·55	—1·81	—0·54	—0·17	—0·96	—1·05	— 4·65
	Nasak	—1·62	—1·51	+0·83	+0·02	—0·38	—1·23	—0·70	—0·56	—0·53	—0·13	—1·00	—1·13	— 7·93
	Harnai	—1·71	—1·57	+1·20	+0·30	—0·16	—1·24	—1·92	—1·01	—0·48	—0·12	—0·80	—1·22	— 8·73
	Sunari	—1·36	—1·15	+0·71	—0·32	—0·23	—1·39	—2·57	—1·47	—0·45	—0·12	—0·70	—0·85	— 9·90
	Spintangi	—0·91	—1·62	+0·22	—0·11	—0·28	—1·11	—2·42	+0·36	—0·31	0	—0·42	—0·80	— 7·40
	Mushkaf	?	?	+0·09	—0·06	+0·24	—0·33	—0·14	+0·16	—0·02	0	—0·17	—0·06	?
	Baber Kach	—0·87	—0·89	+0·16	—0·09	—0·16	—0·49	—1·57	—1·26	—0·34	—0·04	—0·41	—0·52	— 6·48

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baluchistan—*concld.*	Loralai (Hospital)	—1·11	—0·55	+0·04	—0·21	+0·64	—0·47	—1·74	+0·16	—019	—0·19	—0·38	—0·34	— 4·34
	Nari . .	—0·76	—0·51	—0·01	—0·08	—0·10	—0·35	—1·81	—0·99	—0·22	—0·01	—0·32	—0·49	— 5·65
	Sibi . . .	—0·83	—0·19	+0·15	—0·10	—0 04	—0·30	—1·61	—0 27	—0·12	0	—0·26	—0·56	— 4·13
	Kolepur . .	—1·55	—0·78	+2·57	—0·39	—0·09	—0·16	—1·47	—0·76	—0·21	—0·06	—0·13	—0·33	— 3·18
	Mihtri . .	—0 69	—0·25	—0·26	—0·15	0	—0·28	—1·00	—0·42	0	—0·03	—0 23	—0·42	— 3·73
	Lindsay . .	—0·51	—0·53	—0·26	—0·11	—0·02	—0·23	—1·13	—0·74	—0·12	0	—0·19	—0·31	— 4·15
	Bellput . .	—0·45	—0·22	—0·14	—0·05	—0·03	—0·15	—0·84	—0·81	—0·03	0	8	—0·16	— 3·16
	Nuttal . .	—0·59	+0 39	—0·19	—0·09	+1·03	—0·11	—1·06	—1·06	—0·20	,0	—0·56	—0·36	— 2·80
	Temple Derei .	—0·61	—0·46	—0·07	—0·07	+0·45	—0·33	—0·99	—1·16	—0·03	0	—0·33	—0·16	— 3·76
	Jhatput . .	—0·37	—0·43	—0·11	—0·03	+0·15	—0·16	—0·60	—0·77	—0·17	0	—0·29	—0·14	— 2·92
	Sangal .	—1·82	+1·36	+0·82	—0·10	+0·02	—0·02	—0·38	—0·09	0	—0·09	—0·62	—0·33	— 1·25
	Shalabagh .	—3·24	—1·91	—0·66	—0·36	—0·02	—0·04	—0 71	0	0	+0·09	—0·38	—0·93	— 8·16
	Panir . .	—1·15	—0·36	+0·26	0	+0·21	—0·31	—0·30	+0·06	—0·04	—0·01	—0·14	—0·36	— 2·14
Punjab.	Abbottabad .	—3·13	—0·66	—2·42	+0·07	—1·69	+1·89	—2·55	—2·55	—1·53	—0·09	—0·93	—1·40	—14·9
	Cherat . .	—2·94	+1·97	—2·50	—1·61	—0·87	+0·70	+0·16	—3·09	—1·91	+0·14	—0·18	—0·70	—10·83
	Murree (Obsy.) .	—3·74	—1·33	—1·29	—0·90	—2·67	+3·11	—0·54	—6·39	—3·13	—1·40	—1·41	—1·12	—20·81
	Poo . .	—3·10	—1·88	—2·07	—1·69	—0·67	+0·20	—1·14	—0·45	—0·45	—0·14	—0·69	—1·01	—13·09
	Dharmsala .	—3·48	—0·18	—3·55	—1·26	+2·19	—0·96	+6·73	—16·59	—11·69	—0·96	—0·28	—2·45	—32·48
	Kailang . .	—2·65	—0·03	—0·26	+1·46	—0·19	—0·79	—0·89	—1·24	—1·80	—0·13	+0·05	—0·81	— 7·28
	Kilba . .	—3·37	—1·42	—4·67	—0·18	—2·11	—0·51	—3·33	—3·74	—3·75	—0·47	—1·98	—1·56	—27·09
	Simla (Obsy.) .	—2·53	—0·86	—2·41	—1·26	—1·70	+1·51	—4·78	—6·48	—6·03	—1·09	—0·45	—1·21	—27·29
	Peshawar (Obsy.)	—1·57	+1·84	+0·81	—0·54	—0·40	—0·11	—0·82	—1·26	—0·67	—0·14	—0·64	—0·49	— 3·99
	Kohat . .	—1·36	+0·57	+0·05	—0·70	—1·22	+0·42	—1·02	—2·26	—0·27	—0·52	—0·67	—0·47	— 7·45
	Bannu . .	—0·86	+0·63	+1·57	—0·97	—0·59	—0·18	+0·56	—2·29	—0·67	—0·15	—0·20	—0·20	— 3·35
	Dera Ismail Khan	—0·47	+0·69	—0·51	—0·70	—0·23	+0·27	—2·05	+1·52	—0·35	—0·11	—0·16	—0·31	— 2·41
	Dera Ghazi Khan	—0·44	—0·22	—0·59	—0·31	—0·48	—0·46	—1·71	—1·17	—0·35	—0·05	—0·13	—0·25	— 6·16
	Muzaffargarh .	—0·36	—0·22	—0·38	—0·33	—0·37	—0·30	—0·94	—0·65	—0·51	+0·07	—0·09	—0·27	— 4·35
	Mooltan (Obsy.)	—0·42	—0·15	—0·44	—0·24	—0·42	+1·12	—1·62	—0·92	—0·65	+0·02	—0·02	—0·27	— 4·01
	Jhang . .	—0·54	—0·31	—0·77	—0·34	—0·38	—0·64	—2·34	—1·12	—0·62	—0·15	—0·03	—0·32	— 7·56
	Montgomery .	—0·56	—0·60	—0·46	—0·17	—0·30	—0·82	—2·85	—2·26	—0·93	—0·14	—0·06	—0·26	— 9·41
	Shahpur . .	—0·84	—0·59	—0·86	—0·32	—0·39	+1·17	—2·80	—2·57	—1·52	—0·16	—0·25	—0·36	— 9·49
	Rawalpindi .	—2·57	—0·04	—1·20	—0·98	—1·34	+0·67	—1·07	—3·19	—0·48	+0·47	—0·68	—1·08	—11·49
	Jhelum . .	—2·00	—0·18	—1·13	—0·40	+0·73	+0·17	—1·15	—4·72	—2·03	—0·40	—0·22	—0·80	—12·13
	Gujarat . .	—2·02	—0·52	—1·34	—0·96	—0·25	+0·56	—4·80	—6·58	—2·08	—0·44	—0·23	—0·67	—19·33
	Sialkot (Obsy.) .	—2·01	—0·62	—1·00	—1·09	—0·03	—0·38	—5·21	—8·96	—2·66	—0·53	—0·29	—0·79	—23·57

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years.*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.	Inches.
PUNJAB—*concld.*	Gujranwala .	—1·52	+0·39	—0·67	—0·48	—0·42	+0·69	—3·16	—2·53	—1·99	—0·46	—0·22	—0·62	—10·99
	Gurdaspur .	—2·21	—0·41	—1·24	—0·17	—0·45	—0·50	—7·02	—6·69	—3·52	—0·44	—0·15	—1·08	—23·88
	Lahore . .	—0·90	—1·00	—0·76	—0·26	—0·83	—0·27	—4·02	—4·05	—1·85	—0·36	—0·13	—0·46	—14·89
	Amritsar . .	—1·35	—0·85	—0·87	—0·26	—0·85	—0·09	—3·59	—4·65	—2·55	—0·45	—0·20	—0·63	—16·34
	Ferozepore .	—1·16	—0·78	—0·71	—0·35	—0·57	—1·19	—6·33	—2·75	—2·28	—0·55	—0·06	—0·48	—17·21
	Jullundur .	—1·58	—0·94	—1·15	—0·17	—0·79	—0·26	—5·21	—5·47	—3·49	—0·17	—0·10	—0·67	—20·00
	Hoshiarpur .	—1·93	—0·46	—1·36	—0·27	+1·20	—0·07	—5·52	—5·70	—3·28	—0·15	—0·15	—1·17	—18·86
	Ludhiana .	—1·60	—0·99	—1·35	—0·27	—0·95	+0·17	—5·09	—5·76	—4·06	—0·64	—0·09	—0·88	—21·51
	Umballa . .	—1·61	—0·01	—0·90	+0·09	—0·73	+3·97	—6·61	—6·72	—4·34	—0·48	—0·26	—0·65	—18·25
	Sirsa . .	—0·79	—0·31	—0·45	—0·34	—0·65	—0·54	—3·33	—3·79	—1·90	—0·25	—0·03	—0·36	—12·74
	Hissar . .	—0·71	—0·42	—0·54	—0·22	—0·14	+4·60	—4·19	—4·02	—1·85	—0·28	—0·08	—0·43	— 8·28
	Rohtak . .	—0·83	—0·58	—0·59	+0·01	—0·70	+2·31	—3·02	—3·93	—3·19	—0·37	—0·04	—0·50	—11·43
	Delhi (Obsy.) .	—1·04	—0·45	—0·70	+0·03	—0·35	+1·25	—3·46	—6·41	—4·05	—0·42	—0·10	—0·43	—16·13
	Gurgaon . .	—0·88	—0·24	—0·53	—0·04	—0·41	+0·76	—4·09	—4·79	—3·07	—0·37	—0·04	—0·34	— 14·04
	Karnal . .	—1·37	—0·30	—0·80	+0·40	—0·82	+0·80	—7·02	—7·01	—4·49	—0·08	—0·13	—0·47	—21·29
SIND.	Kurrachee .	—0·73	—0·32	+0·20	—0·14	—0·04	—0·51	—3·22	—1·61	—0·65	—0·05	0	—0·19	— 7·26
	Sehwan . .	—0·44	—0·27	+0·27	—0·16	—0·13	—0·32	—1·87	—2·59	—0·55	—0·03	—0·13	—0·13	— 6·35
	Tatta . .	—0·34	—0·22	+0·54	—0·31	—0·02	—1·01	—3·73	—1·70	—0·81	0	—0·22	—0·09	— 7·91
	Hyderabad (Obsy.)	—0·29	—0·21	+0·99	—0·16	—0·13	—0·48	—2·73	—3·14	—0·57	0	—0·12	—0·04	— 6·88
	Umarkot .	—0·21	—0·08	—0·12	—0·09	—0·04	—0·88	—3·58	—3·43	—0·97	—0·16	—0·06	—0·02	— 9·64
	Shikarpur .	—0·36	—0·31	—0·15	—0·17	+0·75	—0·11	—1·05	—1·64	—0·19	0	—0·14	—0·15	— 3·52
	Rohri . .	—0·35	—0·46	—0·21	—0·27	—0·17	—0·24	—1·17	—1·33	—0·26	—0·01	—0·12	—0·18	— 4·77
	Jacobabad .	—0·29	—0·16	0	—0·18	+1·49	—0·11	—1·23	—1·23	—0·19	—0·01	—0·13	—0·11	— 2·15
CUTCH .	Bhuj . .	—0·07	—0·13	—0·08	—0·10	—0·14	—1·60	—6·07	—2·99	—1·83	—0·70	—0·09	—0·06	—13·86
	Rhahpur . .	—0·03	—0·10	—0·06	—0·06	—0·15	—1·66	—8·93	—3·45	—2·62	—0·54	—0·20	—0·01	—17·81
	Nagar . .	—0·15	—0·10	—0·05	—0·03	—0·05	—1·81	—6·17	—5·23	—1·98	—0·27	—0·05	+0·01	—15·88
RAJPUTANA.	Jaisalmer . .	—0·34	—0·13	—0·12	+0·20	—0·26	—0·88	—2·69	—2·30	— 0·45	0	—0·03	—0·11	—7·11
	Phalodi . .	—0·21	—0·07	—0·12	—0·02	—0·08	—0·66	—2·73	—2·55	— 0·62	0	0	—0·03	—7·09
	Bikaner . .	—0·43	—0·21	—0·21	—0·16	—0·92	—1·34	—3·04	—3·02	— 0·92	—0·09	—0·07	—0·18	—10·59
	Nagar . .	—0·40	—0·10	—0·19	+0·29	—0·55	—1·86	—2·57	—4·11	— 1·86	—0·06	—0·09	—0·32	—11·82
	Didwana . .	—0·53	—0·16	—0·33	—0·07	—0·58	—0·21	—3·83	—5·70	— 1·67	—0·07	—0·17	—0·25	—13·57
	Jhunjhunu .	—0·94	—0·24	—0·28	—0·11	+0·66	+6·20	—5·45	—5·82	— 2·06	—0·17	—0·06	—0·25	—8·52
	Khetri . .	—1·02	—0·71	—0·48	—0·14	+0·72	+4·30	—6·39	—8·18	— 2·33	—0·30	—0·12	—0·27	—14·92
	Sikar . .	—0·65	—0·20	—0·27	—0·03	—0·26	+6·20	—5·36	—6·21	— 1·57	—0·24	—0·14	—0·31	—9·04
	Sri Madhopur .	—0·69	—0·50	—0·28	—0·09	—0·38	+5·90	—5·76	—7·90	—2·37	—0·06	—0·23	—0·52	—12·88

TABLE XVII.—*Comparison of the monhtly and total rainfall (in inches) in 1899 with the averages of past years.*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
RAJPUTANA—*contd.*	Alwar	−0·64	−0·40	−0·30	+0·16	+0·14	+3·67	−3·48	−9·42	−3·97	−0·80	−0·20	−0·45	−15·69
	Bharatpur	−0·47	−0·20	−0·27	−0·11	+1·24	+9·52	−1·23	−8·31	−3·82	−0·39	−0·06	−0·29	−4·39
	Bandikui	−0·51	−0·17	−0·40	−0·04	−0·18	+3·33	−1·67	−8·67	−3·07	−0·12	−0·22	−0·45	−12·17
	Jaipur	−0·49	−0·20	−0·35	−0·06	−0·19	+2·03	−3·38	−7·96	−3·09	−0·24	−0·17	−0·36	−14·46
	Sambhar	−0·35	−0·18	−0·25	+0·07	−0·83	+2·15	−2·69	−6·35	−3·21	−0·33	−0·25	−0·42	−12·64
	Karauli	−0·38	−0·14	−0·19	−0·05	+0·36	+6·92	−2·79	−10·52	−4·36	−0·15	−0·11	−0·33	−11·74
	Lalsot	−0·41	−0·07	−0·17	+0·28	−0·01	+3·62	+0·77	−10·61	−2·01	−0·18	−0·13	−0·20	−9·12
	Tonk	−0·22	−0·22	−0·20	−0·04	+0·62	−0·62	−2·14	−9·87	−3·12	−0·52	−0·08	−0·23	−16·64
	Siwai Madhopur	−0·40	−0·13	−0·25	−0·03	+0·40	+9·38	−3·03	−12·32	−3·78	−0·14	−0·14	−0·18	−10·62
	Deoli	−0·27	−0·17	−0·16	+0·14	−0·54	+3·07	−5·04	−10·23	−3·55	−0·40	−0·14	−0·18	−17·47
	Kotah	−0·28	−0·21	−0·10	−0·01	−0·11	+1·97	−0·91	−9·72	−4·45	−0·37	−0·17	−0·23	−14·59
	Jhalrapatan	−0·23	−0·31	−0·15	−0·04	−0·42	+6·61	−6·59	−9·68	−4·94	−0·97	−0·26	−0·47	−17·45
	Ajmer	−0·35	−0·31	−0·35	+0·87	−0·43	+0·81	−2·02	−7·36	−2·66	−0·29	−0·21	−0·29	−12·58
	Nasirabad	−0·19	−0·33	−0·12	+0·03	−0·57	+2·20	−4·02	−6·15	−2·67	−0·24	−0·19	−0·31	−12·56
	Malpura	−0·43	−0·04	−0·31	+0·16	+0·31	+2·19	−0·86	−9·12	−2·39	−0·02	−0·03	−0·28	−10·82
	Beawar	−0·24	−0·11	−0·17	−0·12	−0·38	−0·87	−4·41	−6·20	−2·14	−0·18	−0·19	−0·24	−15·25
	Jodhpur	−0·28	−0·16	−0·03	−0·05	−0·47	−1·09	−3·93	−5·15	−1·52	−0·13	−0·12	−0·13	−13·06
	Pachpadra	−0·39	−0·07	−0·12	−0·04	−0·78	−0·87	−4·09	−3·97	−2·33	−0·06	−0·09	−0·09	−12·90
	Jasol	−0·23	−0·05	−0·10	−0·02	−0·56	−0·46	−3·71	−3·78	−1·56	−0·01	−0·21	+0·20	−10·49
	Barmer	−0·20	−0·07	−0·09	−0·01	−0·46	−1·47	−3·33	−2·82	−1·91	−0·04	−0·14	−0·05	−10·59
	Pali	−0·15	−0·03	−0·12	0	−0·31	−2·11	−4·57	−5·30	−1·58	−0·11	−0·29	−0·10	−14·67
	Shahpura	−0·14	−0·17	−0·17	+1·63	+0·08	+2·35	−3·53	−8·02	−3·26	−0·45	−0·10	−0·18	−11·96
	Erinpura	−0·19	−0·23	−0·11	+0·07	−0·04	+3·21	−5·37	−5·01	−2·78	−0·37	−0·20	+0·80	−10·22
	Sirohi	−0·19	−0·15	−0·11	+0·53	−0·30	−0·76	−7·47	−6·37	−3·12	−0·04	−0·25	+0·37	−17·86
	Mount Abu	−0·15	−0·17	−0·09	+0·12	−0·18	−0·82	−11·06	−11·09	−2·47	−0·76	−0·16	−0·04	−26·87
	Kotra	−0·13	−0·22	−0·04	−0·03	−0·52	+1·17	−11·99	−9·89	−4·45	−0·52	−0·20	−0·08	−26·90
	Udaipur	−0·10	−0·15	−0·08	−0·05	+1·14	+1·95	−6·77	−6·44	−5·49	−0·40	−0·21	+0·03	−16·57
	Partabgarh	−0·23	−0·08	−0·03	−0·01	+1·30	−0·48	−8·81	−10·56	−5·35	−0·67	−0·31	−0·19	−25·42
	Kherwara	−0·10	−0·17	−0·06	+0·12	+0·46	−1·15	−7·65	−8·21	−4·49	−0·54	−0·16	−0·08	−22·03
	Banswara	−0·30	−0·11	−0·01	−0·01	+0·14	−4·26	−9·96	−12·21	−7·78	−0·62	−0·26	−0·31	−27·17
CENTRAL INDIA.	Neemuch (Obsy.)	−0·22	−0·15	−0·10	−0·11	+0·56	+3·45	−8·76	−9·11	−4·68	−0·71	−0·18	−0·26	−20·27
	Sirdarpore	−0·18	−0·18	−0·03	−0·02	+0·33	+1·51	−6·71	−6·32	−7·40	−1·11	−0·23	−0·16	−20·59
	Agar	−0·27	−0·17	−0·04	−0·06	+0·39	+0·72	+4·60	−10·46	−6·77	−0·70	−0·20	−0·40	−22·56
	Rutlam	−0·19	−0·17	−0·03	+0·23	+0·07	+4·09	−7·09	−10·21	−7·01	−0·88	−0·28	+0·52	−20·95
	Indore	−0·28	−0·24	−0·05	−0·17	+0·08	+0·14	−3·42	−6·96	−6·24	−1·14	−0·28	−0·20	−18·76

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.
Central India—*concld.*	Bhopal (Sehore)	−0·48	−0·24	−0·16	−0·06	−0·12	+0·94	−6·19	−11·51	−8·01	−1·31	−0·43	−0·84	−28·41
	Goona . .	−0·45	+0·01	−0·21	−0·11	−0·09	+5·12	−9·78	−12·68	−2·93	−0·50	−0·39	−0·34	−13·35
	Morar . .	−0·45	−0·31	−0·17	−0·10	−0·40	+7·29	−3·60	−10·07	−3·63	−0·50	−0·04	−0·33	−12·31
	Nowgong .	−0·05	−0·24	−0·24	+0·48	−0·33	+16·93	−5·52	−6·19	−4·77	−1·16	−0·19	−0·48	−1·76
	Sutna . .	−0·54	−0·40	−0·43	−0·68	+0·39	+0·55	−8·05	−3·20	−3·96	−2·23	−0·30	−0·37	−18·62
	Nagode . .	−0·52	−0·14	−0·32	−0·15	+0·71	+1·67	−9·95	−2·63	−3·27	−2·15	−0·19	−0·47	−17·41
	Malhar . .	−0·68	+0·53	−0·33	−0·09	+0·67	−3·83	−5·12	−4·58	−5·92	−2·25	−0·53	−0·54	−22·67
	Rewah . .	−0·52	−0·08	−0·29	−0·07	−0·09	−2·58	−10·01	−6·30	−5·43	−2·42	−0·33	−0·33	−28·45
	Chandia . .	−0·88	+0·62	−0·38	0	−0·01	−6·14	−9·90	−7·86	−6·26	−2·43	−0·31	−0·41	−33·96
	Ramnagar .	−0·71	−0·05	−0·32	−0·06	−0·32	−4·78	−5·40	−9·89	−5·76	−2·43	−0·37	−0·59	−30·68
	Sihawal (Bardi)	−0·48	−0·34	−0·69	+0·28	−0·31	−2·80	+3·37	−5·19	−6·12	−1·93	−0·60	−0·45	−15·26
	Tyonthar .	−0·18	−0·36	−0·35	+0·21	−0·33	+3·75	−1·94	−2·11	−5·52	−2·52	−0·22	−0·43	−10·00
	Sohagpur .	−1·06	−0·25	−0·57	−0·21	−0·07	−5·43	−8·46	−2·46	−4·94	−2·46	−0·97	−0·54	−27·42
	Chakrata . .	−0·66	+0·15	−1·63	+1·14	+1·33	+ 3·83	+ 3·11	− 7·35	−2·04	−0·58	−0·38	−1·11	− 4·19
	Mussooree .	+1·59	−0·61	−2·38	−0·35	−1·43	+ 5·05	− 3·92	−25·96	−8·29	−1·04	−0·40	−1·06	−38·80
	Srinagar . .	−1·41	−1·94	−1·51	−0·09	−0·78	+ 5·81	+6·13	− 6·90	−2·72	−0·79	−0·26	−0·67	− 5·13
	Pauri . .	−1·65	−1·89	−1·64	+0·26	−0·83	+ 6·94	+ 5·35	− 9·23	−4·41	−0·83	−0·31	−0·71	− 8·95
	Ranikhet . .	−1·31	−0·16	−1·82	+0·65	−1·74	+ 3·18	+ 2·50	− 7·55	−6·07	−1·46	−0·28	−0·85	−14·91
	Almora . .	−1·37	+0·54	−0·63	+1·68	−1·56	+ 3·68	+ 5·19	− 1·37	−2·25	−1·15	−0·21	−0·58	+ 1·97
North-Western Provinces.	Pithoragarh .	−1·40	+1·18	−1·70	+0·66	+0·79	+ 5·30	+ 5·11	− 2·34	−5·20	−1·31	−0·15	−0·65	+ 0·29
	Naini Tal .	−1·67	−0·08	−2·38	+0·53	−0·93	+ 2·25	+ 7·36	−12·75	−8·94	−2·18	−0·24	−1·12	−20·15
	Dehra Dun .	−1·77	+0·53	−1·14	+0·14	+0·78	+ 5·00	+ 6·12	−18·98	−7·59	−0·86	−0·21	−0·61	−18·59
	Saharanpur .	−1·53	−1·19	−0·59	+0·05	−0·16	+ 3·03	− 6·73	− 8·92	−4·25	+1·25	−0·23	−0·67	−19·96
	Roorkee . .	−1·68	−0·94	−0·80	+0·05	+0·21	+ 2·36	− 4·06	−10·89	−5·29	+0·53	−0·25	−0·46	−21·22
	Muzaffarnagar .	−1·14	+0·10	−0·84	+0·10	−0·43	+ 3·78	− 6·34	− 6·87	−3·84	−0·16	−0·12	−0·38	−16·14
	Bijnor . .	−1·13	+0·74	−0·88	+0·69	−0·64	+ 4·03	− 1·68	− 9·51	−5·97	−0·18	−0·14	−0·37	−15·04
	Meerut . .	−0·97	−0·75	−0·67	−0·22	−0·08	+ 7·74	− 5·45	− 6·38	−4·00	−0·46	−0·09	−0·39	−11·71
	Moradabad .	−0·90	+0·20	−0·76	+0·58	+0·22	+ 0·85	− 0·83	− 8·06	−5·68	−0·87	−0·11	−0·39	−15·75
	Rudarpur .	−1·10	+0·07	−0·87	−0·23	+1·20	+ 1·66	+ 0·75	− 5·57	−5·99	−1·09	−0·08	−0·44	−11·69
	Pilibhit . .	−0·09	−0·98	−0·80	+0·06	+1·41	+ 6·58	+ 1·78	− 8·03	−6·66	−1·21	−0·10	−0·46	− 8·50
	Bulandshahr .	−0·79	−0·83	−0·43	−0·27	+0·51	+ 6·61	− 3·01	− 7·54	−4·36	−0·45	−0·08	−0·44	−11·08
	Bareilly . .	−0·87	−0·67	−0·69	−0·10	+0·74	+ 2·77	+ 1·29	− 7·45	−5·51	−1·26	−0·11	−0·30	−12·16
	Budaun . .	−0·71	−0·46	−0·47	−0·14	−0·22	+ 9·22	+ 6·86	− 4·40	−5·69	−0·90	−0·11	−0·31	+ 2·67
	Shahjahanpur .	−0·48	−0·34	−0·56	+0·13	−0·26	− 0·55	+ 5·41	− 3·42	−6·90	−1·23	−0·14	−0·28	− 8·62
	Aligarh . .	−0·76	−0·46	−0·39	−0·17	+0·34	+ 9·08	− 1·72	− 5·80	−4·47	−0·48	−0·04	−0·34	− 5·21

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
North-Western Provinces—*concld.*	Muttra	—0·57	—0·27	—0·25	+0·45	—0·17	+ 1·42	— 2·58	— 7·68	—4·26	—0·37	—0·04	—0·27	—14·59
	Agra	—0·55	—0·22	—0·26	+0·40	+0·41	+ 1·62	+ 1·76	— 6·81	—4·07	—0·41	—0·06	—0·27	— 3·06
	Etah	—0·57	—0·13	—0·31	—0·08	—0·23	+ 9·15	+ 3·47	— 7·30	—2·89	—0·84	—0·05	—0·27	— 0·05
	Mainpuri	—0·62	—0·06	—0·29	+0·03	—0·17	+ 9·04	+ 2·05	— 6·27	—4·51	—0·84	—0·11	—0·34	— 2·09
	Farrukhabad	—0·58	—0·06	—0·39	+0·30	—0·46	+ 2·54	+ 1·84	— 1·34	—4·84	—1·01	—0·09	—0·31	— 4·40
	Etawah	—0·55	—0·21	—0·40	—0·02	—0·22	+11·37	+ 0·48	— 8·13	—2·34	—0·97	—0·09	—0·26	— 1·34
	Cawnpore	—0·47	—0·21	—0·25	—0·13	—0·37	+ 3·91	+ 8·77	+ 0·09	—0·91	—1·27	—0·14	—0·22	+ 8·80
	Fatehpur	+0·27	—0·23	—0·28	+0·54	—0·33	+ 6·07	+ 6·18	— 3·24	—3·60	—1·62	—0·18	—0·26	+ 3·32
	Jalaun (Orai)	—0·47	—0·17	—0·22	+0·49	0	+ 7·60	— 0·30	— 3·00	—3·19	—0·78	—0·05	— 0·23	— 0·32
	Hamirpur	—0·29	—0·37	—0·23	+0·24	—0·01	+12·96	+12·11	— 3·37	—2·72	—1·11	—0·18	—0·30	+16·73
	Banda	+0·03	—0·37	—0·29	—0·09	+0·13	+ 9·89	+ 7·28	— 0·99	—3·96	—1·49	—0·39	—0·24	+ 9·51
	Allahabad	—0·03	—0·41	—0·41	+0·97	—0·31	+ 3·86	+ 4·92	+ 0·77	—4·82	—2·46	—0·26	—0·22	+ 1·60
	Basti	+0·49	—0·29	—0·31	+0·50	+1·87	+ 2·66	+10·46	— 0·81	—7·15	—2·66	—0·06	—0·11	+ 4·99
	Gorakhpur	+0·15	—0·39	—0·41	+1·57	+0·84	— 2·42	+24·95	+ 3·38	—6·87	—0·91	—0·18	—0·12	+19·59
	Azamgarh	+0·69	—0·25	—0·36	+1·03	—0·34	+ 4·96	+15·58	+ 1·19	—4·91	—2·33	—0·11	—0·14	+15·01
	Jaunpur	+0·43	—0·31	—0·30	—0·01	—0·33	+11·72	+ 1·93	— 3·90	—6·00	—3·01	—0·16	—0·12	— 0·06
	Benares	—0·04	—0·38	—0·34	+1·19	+1·67	+12·33	+ 6·44	— 1·50	—3·89	—1·86	—0·19	—0·14	+13·29
	Mirzapur	+0·28	—0·52	—0·51	+0·29	—0·41	+ 6·34	+ 3·02	+ 1·09	—4·46	—2·08	—0·29	—0·15	+ 2·60
	Ballia	+0·14	—0·50	—0·23	+1·20	+0·56	+ 0·94	+15·88	+ 9·37	—4·07	—0·55	—0·20	—0·12	+22·42
	Dudhi	+0·11	—0·29	—0·46	+0·12	+0·71	+ 3·98	+ 8·08	— 1·87	—5·92	—2·58	—0·31	—0·28	+ 1·29
	Robertsganj	—0·10	—0·53	—0·45	+1·13	+0·20	+ 3·12	+ 4·24	— 3·47	—5·85	—2·12	—0·42	—0·23	— 4·48
	Jhansi	—0·55	—0·01	—0·37	+0·32	+0·01	+10·03	— 0·91	—10·12	—5·18	—0·72	—0·07	—0·24	— 7·81
	Lalitpur	—0·49	+0·25	—0·34	—0·13	—0·23	+ 2·94	+ 5·88	— 9·26	—2·89	—1·00	—0·19	—0·38	— 5·84
Oudh.	Kheri	—0·50	—0·57	—0·53	—0·14	+3·11	— 2·15	+ 6·65	— 2·53	—5·17	— 1·48	—0·17	—0·39	— 3·87
	Sitapur	+0·11	+0·15	—0·50	+0·23	—0·72	+ 0·99	+ 5·24	— 3·90	—4·15	— 1·47	—0·17	—0·32	— 4·51
	Bahraich	+0·03	—0·61	—0·44	+1·05	+·253	— 1·45	— 3·30	+ 0·82	—6·09	— 1·84	—0·13	—0·40	— 9·83
	Gonda	+0·16	—0·54	—0·36	+0·94	+1·51	+ 7·25	+ 6·96	— 8·85	—7·13	— 1·67	—0·10	—0·28	— 2·11
	Hardoi	—0·25	—0·21	—0·65	+0·30	+0·64	+ 0·25	+ 3·48	— 3·51	—5·13	— 1·29	—0·13	—0·36	— 6·86
	Nawabganj (Bara Banki.)	—0·86	—0·20	—0·40	—0·17	+0·15	— 1·14	+ 3·51	— 1·15	—5·83	— 1·20	—0·08	—0·48	— 7·85
	Lucknow	—0·53	—0·12	—0·34	—0·03	+1·57	+ 1·11	+ 7·11	— 5·73	—5·36	— 1·39	—0·09	—0·45	— 4·25
	Unao	—0·61	—0·19	—0·31	—0·11	—0·56	+ 3·27	+ 9·52	— 4·91	—3·02	— 1·48	—0·10	—0·36	+ 1·14
	Fyzabad	+0·02	—0·23	—0·53	—0·07	+0·55	+ 6·03	+ 8·61	+ 1·20	—7·52	— 1·59	—0·09	—0·22	+ 6·16
	Sultanpur	+0·51	—0·14	—0·24	+1·00	—0·35	+ 1·13	+ 5·69	— 3·69	—5·87	— 2·41	—0·17	—0·23	— 4·77
	Rae Bareli	+0·37	—0·37	—0·26	+0·27	—0·31	+ 5·44	+ 5·72	+ 0·43	—6·31	— 1·47	—0·12	—0·22	+ 3·17
	Partabgarh	+2·13	—0·13	—0·24	+0·27	+0·33	+ 3·61	+11·01	— 2·15	—4·99	— 2·49	—0·24	—0·28	+ 6·83

TABLE XVII —*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*— contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inche .
BENGAL	Motihari . .	—0·15	—0·33	—0·50	+2·31	+0·92	— 0·18	+ 6·62	— 1·04	—0·26	— 3·37	—0·13	—0·13	+ 3·76
	Darbhanga .	+0·58	—0·21	+0·28	+2·19	+0·09	+ 1·93	+ 4·75	+ 8·85	—2·50	+ 0·40	—0·08	—0·12	+16·36
	Siwan . .	+0·43	+0·44	—0·26	+1·86	+2·66	+ 2·14	+ 6·99	+11·19	—3·10	— 2·66	—0·19	—0·11	+19·39
	Buxar . .	+1·72	—0·40	—0·30	+0·19	—0·46	+ 5·92	+ 9·02	— 0·15	—5·61	— 2·28	—0·43	—0·18	+ 7·04
	Chapra . .	+0·36	+0·12	—0·41	+1·20	—0·16	+ 1·44	+15·51	+ 6·76	—1·52	— 2·28	—0·27	—0·09	+20·66
	Arrah . .	+0·97	—0·20	—0·49	+1·59	+1·50	+ 1·13	+ 8·47	— 0·37	—0·80	— 0·30	—0·24	—0·13	+11·13
	Patna (Bankipore)	+0·34	—0·05	—0·36	+0·87	+0·74	+ 4·65	+ 8·07	+ 0·45	—3·60	— 0·94	—0·22	—0·15	+ 9·80
	Muzaffarpur .	0	—0·29	+0·59	+1·69	+4·68	+ 4·91	+13·52	+14·28	—0·94	— 1·19	—0·13	—0·07	+37·05
	Barh . .	+1·07	+0·62	—0·22	+0·98	—1·12	+ 2·38	+13·09	+ 5·65	—1·62	— 1·36	—0·21	—0·09	+19·17
	Sasaram . .	+1·10	—0·47	—0·38	+0·21	+0·42	+ 9·40	+11·06	— 2·23	—2·45	— 2·41	—0·31	—0·21	+ 13·73
	Gaya . .	+1·86	—0·59	—0·45	+0·13	+0·10	+ 4·96	+12·05	— 0·13	—3·04	— 1·85	—0·29	—0·16	+12·59
	Jamui . .	+1·67	—0·51	—0·33	+0·14	—0·60	+ 1·60	+16·90	+ 5·10	+1·26	— 1·39	—0·10	—0·07	+23·67
	Madhipura .	+0·24	—0·18	—0·41	+3·05	—0·71	+ 4·52	+ 7·75	+10·19	+7·52	— 3·19	—0·06	—0·06	+28·66
	Monghyr . .	+1·03	—0·20	—0·45	+0·96	—1·56	+ 6·87	+16·28	+ 3·01	+0·23	— 2·72	—0·21	—0·08	+23·16
	Bhagalpur .	+1·30	—0·27	—0·41	+0·57	+0·29	— 0·01	+16·33	+ 2·90	+9·42	— 3·46	—0·19	—0·08	+26·39
	Godda . .	+1·83	—0·64	—0·51	+1·01	—1·18	+ 1·66	+ 8·25	+ 0·54	+9·25	— 2·40	—0·29	—0·10	+17·42
	Palamau . .	+0·17	—0·30	—0·67	—0·01	—0·63	+ 3·01	+ 1·90	— 7·62	—6·92	— 2·40	—0·40	—0·26	—14·13
	Hazaribagh .	+0·66	—0·69	—0·71	+0·16	+1·46	+ 6·40	+ 3·78	— 6·59	—6·72	— 3·02	—0·34	—0·20	— 5·81
	Ranchi . .	+0·49	—0·47	—1·42	+2·64	—1·13	+ 3·81	— 0·46	— 6·22	—5·82	— 2·88	—0·35	—0·18	—11·99
	Lohardaga .	+0·34	—0·64	—0·99	+2·97	—0·22	+ 5·90	— 0·06	— 8·73	—7·35	— 2·38	—0·60	—0·39	—12·15
	Naya Dumka .	+1·19	+0·10	—0·26	+0·85	—1·29	+ 9·12	+11·98	— 5·24	+1·14	— 2·59	—0·36	—0·18	+14·46
	Gobindpur .	+0·62	—0·68	—0·61	+0·06	+1·27	+ 3·97	+ 1·38	— 7·60	—0·71	— 2·55	—0·20	—0·16	— 5·21
	Purulia . .	+0·90	—1·05	—1·00	+1·45	+0·70	+ 5·06	+ 4·35	— 4·83	+8·23	— 2·53	—0·27	—0·20	—10·81
	Sirguja . .	+0·33	+0·24	—0·86	+0·34	—0·78	+ 3·16	+ 9·87	—15·11	—5·25	— 1·53	—0·65	—0·37	—10·61
	Jushpore . .	—0·37	—0·89	—1·65	+2·51	—0·66	— 2·39	— 2·21	— 3·13	—9·85	— 3·95	—0·52	—0·31	—20·31
	Gangpur . .	—0·36	—0·90	—0·97	+2·10	+1·51	+ 0·39	+ 2·80	— 3·59	—5·25	— 2·28	—0·84	—0·36	— 7·75
	Chaibassa .	—0·40	—0·93	—1·23	+4·76	—1·05	— 1·16	— 3·43	— 0·36	—5·44	— 0·99	—0·45	—0·27	—10·95
	Barreepudda .	—0·09	—0·64	—1·40	+1·79	+0·41	+11·73	+ 6·95	— 2·70	—3·29	+ 1·71	—0·99	—0·13	+13·35
	Keonjhar .	—0·17	—0·57	—0·55	+3·02	+1·18	+ 4·31	+ 2·93	— 1·41	—4·43	+ 4·05	—0·97	—0·18	+ 7·21
	Jellasore . .	+0·09	—1·01	—1·21	+1·93	+2·03	— 2·22	+ 7·64	+ 0·85	+0·25	+ 0·41	—0·76	—0·11	+ 6·99
	Balasore . .	—0·02	—0·99	—1·67	+1·23	+2·67	+ 3·97	+ 4·10	— 2·60	—1·55	— 0·65	—1·29	—0·20	+ 3·00
	Bhadrak . .	—0·30	+0·16	—1·47	+4·30	+1·25	+ 0·27	— 2·99	+ 1·76	—1·95	+ 4·27	—1·40	+0·48	+ 4·38
	Talcher . .	—0·21	—0·84	—1·26	+2·78	—0·60	+ 5·12	— 3·73	— 1·37	—5·03	+ 3·78	—1·29	—0·22	— 2·87
	Narsinghpur .	—0·23	—0·31	—0·81	+2·06	+0·82	— 3·16	— 1·44	— 0·25	—4·09	+10·12	—1·52	—0·07	+ 1·12
	Angul . .	—0·21	—0·88	—1·35	+2·83	—0·67	— 2·04	— 3·86	— 5·25	— 6·44	+ 1·50	—1·51	—0·39	—18·27

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BENGAL—*contd.*	Dhenkanal .	—0·30	—0·02	—1·20	+0·52	+1·09	+ 4·36	— 6·79	— 7·77	—7·04	+ 5·32	—1·34	—0·30	—13·47
	Bispara . .	—0·32	—0·29	—0·82	+2·67	+0·53	— 6·91	— 5·74	— 5·41	—6·55	— 0·66	—1·16	—0·30	—24·96
	Kunjabangar .	—0·23	—0·17	—1·37	+1·80	—0·63	— 2·14	— 6·21	— 0·23	—7·67	+ 2·06	—1·37	—0·13	—16·29
	Banki(Charchika)	—0·20	—0·53	—0·08	+2·35	—1·32	— 4·69	— 4·78	+ 1·19	—6·23	+ 2·98	—1·75	—0·44	—13·50
	Cuttack . .	—0·36	—0·37	—1·27	+3·58	+1·84	+ 0·28	— 1·44	— 6·61	—3·65	+ 5·09	—1·44	—0·37	— 4·72
	Baramba . .	+0·04	—0·43	—0·95	+0·89	+3·15	— 1·08	— 1·68	+ 1·55	—7·75	+ 3·56	—1·50	—0·03	— 4·23
	False Point .	— 0·41	—0·42	—1·02	+0·28	+1·93	— 0·54	— 6·20	— 0·89	—6·33	— 1·30	—2·96	—0·52	—18·38
	Puri . .	+0·06	—0·99	—0·60	+2·04	—0·30	— 4·53	— 4·04	— 1·85	—6·45	+ 0·73	—2·74	—0·60	—19·27
	Darjeeling	+2·34	—0·54	+0·77	+0·99	+ 4·90	+ 2·94	+ 12·08	— 2·62	+18·73	— 4·16	—0·05	—0·13	+35·25
	Gantak . .	+1·84	+1·79	+4·32	—2·06	—11·79	?	+ 7·97	— 0·97	— 1·94	— 3·52	+1·29	+3·22	?
	Mongpoo .	+1·84	—0·23	+0·64	+2·52	+ 6·76	+ 0·58	+11·48	+ 2·09	+13·63	— 1·01	—0·17	—0·14	+37·99
	Pedong . .	+1·00	— 0·31	+0·23	+2·83	+ 2·21	+ 2·07	+ 0·76	— 3·10	+ 5·87	— 1·16	—0·28	+1·65	+11·77
	Buxa . .	—0·34	+0·42	—0·98	—1·69	— 3·38	+ 1·73	—15·86	+ 5·57	—12·93	+ 8·48	+0·69	+0·42	—17·87
	Jalpaiguri .	+0·28	—0·32	—0·19	—1·57	— 0·39	— 1·28	— 2·95	+ 2·73	— 2·37	— 3·33	—0·16	—0·08	— 9·63
	Cooch Behar .	+0·22	—0·35	+0·82	—1·94	— 6·89	+ 9·92	— 0·40	+ 1·07	+ 1·06	— 2·66	—0·15	+0·26	+ 0·96
	Kishanganj .	+1·04	—0·45	—0·53	+2·82	— 1·42	+ 7·43	+ 2·41	+ 5·47	+13·60	— 3·15	—0·05	—0·11	+27·06
	Purnea . .	+0·20	—0·29	—0·39	+1·57	— 1·32	+ 3·82	+ 9·02	+15·31	+ 4·79	— 3·32	—0·08	—0·11	+29·20
	Rangpur . .	?	—0·39	+2·27	+0·39	— 2·47	—10·71	— 2·07	+ 8·52	+ 9·83	— 3·03	—0·26	—0·09	+1·48?
	Dinajpur . .	+0·21	—0·55	—0·52	+2·87	— 2·05	+ 2·09	+12·52	+18·18	+10·72	— 3·09	—0·18	—0·08	+40·12
	Maida . .	+1·41	+0·17	—0·81	—0·28	— 0·63	+ 7·81	+ 8·33	+ 2·29	— 3·73	— 2·11	—0·22	—0·27	+11·96
	Bogra . .	+1·97	+0·42	—1·01	—0·38	+ 0·52	— 0·88	+ 6·38	+ 6·15	+ 1·61	+ 1·01	—0·91	—0·09	+14·79
	Rampur Boalia .	+1·05	—0·65	+0·60	—1·29	+ 3·23	+ 1·62	— 0·17	+ 1·47	— 2·01	— 1·34	—0·34	—0·07	+ 2·10
	Pubna . .	+1·71	—0·58	—1·63	—0·07	+ 0·84	— 0·09	+ 5·45	— 1·36	— 6·05	— 0·85	—0·66	—0·08	— 3·37
	Suri . .	+0·36	—0·81	—0·80	—0·68	+ 0·48	+ 5·16	+11·41	— 6·28	— 3·91	— 0·15	—0·36	—0·13	+ 4·29
	Bankura . .	+0·58	—0·13	—1·31	+0·63	— 0·31	+ 0·41	+ 3·64	— 4·43	— 3·12	— 1·07	—0·55	—0·14	— 5·80
	Burdwan . .	+1·08	+1·63	—1·33	+0·35	— 2·53	+ 1·59	+11·77	— 1·18	+ 0·75	— 0·33	—0·71	—0·13	+10·96
	Hooghly . .	+0·04	— 0·90	—1·48	+1·95	+ 6·45	+ 2·20	+12·16	— 6·40	+ 2·97	— 0·74	—0·73	—0·20	+15·32
	Howrah . .	—0·33	—1·10	— 1·51	+0·39	+ 5·81	+ 6·08	+ 7·82	— 4·34	— 0·28	— 1·58	—0·56	—0·20	+10·20
	Midnapore .	— 0·23	— 0·95	—1·43	+0·68	+ 1·11	+ 3·14	+ 9·65	— 2·68	+ 3·23	— 0·92	—0·63	—0·21	+10·76
	Tamluk . .	—0·16	—1·15	—1·45	+1·27	+ 2·37	+ 3·88	+ 9·81	+ 2·24	+ 7·52	+ 0·95	—0·52	—0·20	+24·56
	Berhampore .	+1·49	—0·61	—0·97	—0·76	— 1·93	+ 0·39	+ 2·88	— 0·24	+ 0·44	— 1·41	—0·44	— 0·10	— 1·26
	Krishnagar .	+0·87	—0·80	—1·16	+1·19	+ 4·31	+ 0·79	+12·98	— 4·33	— 2·41	— 1·53	—0·81	—0·12	+ 8·98
	Faridpur . .	+1·71	+0·35	+0·42	+1·07	— 0·20	+ 4·7 5	+ 2·63	— 0·18	+ 0·88	+ 2·27	—1·13	—0·09	+12·48
	Jessore . .	+0·44	— 0·57	—1·71	—0·48	+ 1·69	— 1·40	+ 9·27	+ 1·42	— 1·14	— 1·57	—1·28	—0·15	+ 4·52
	Basirhat . .	—0·26	—0·94	—1·72	+4·58	+ 1·27	— 2·31	+ 0·09	— 3·68	— 2·95	— 1·60	—0·58	—0·16	— 8·26

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Bengal—*concld.*	Khulna	+0·17	+0·10	+0·10	+1·42	+ 3·60	+ 5·08	+ 8·92	— 1·72	— 2·46	— 0·19	—0·83	—0·23	+13·96
	Barisal	+0·35	—0·20	+1·12	+0·80	+ 4·48	+ 0·87	+ 5·24	— 3·31	— 2·48	+ 7·90	—1·15	—0·32	+13·30
	Alipore (Obsy.)	—0·11	—1·05	—1·29	+1·27	+ 4·02	+ 6·05	+ 9·52	— 3·60	— 0·12	— 0·68	—0·74	— 0·37	+12·90
	Saugor Island	+0·87	—0·99	—0·95	+0·02	+ 9·82	— 1·10	— 0·35	+ 1·59	+ 1·51	— 0·87	—1·48	—0·07	+ 8·00
	Mymensingh	+2·58	—0·36	—1·01	+4·68	— 0·83	— 7·58	+ 6·47	+ 3·18	+ 6·34	— 0·25	— 0·84	—0·05	+12·33
	Kishorganj	+2·04	+0·23	—0·54	+2·91	+ 5·31	— 1·08	+ 5·49	+ 0·73	+ 3·76	+ 1·93	—0·78	+0·36	+20·36
	Atia (Tangail)	+0·95	+0·48	—1·02	—1·61	+ 0·97	+ 4·92	+ 2·93	+ 0·31	— 2·22	+ 1·65	—0·55	—0·09	+ 6·72
	Dacca	+1·29	+0·83	+0·05	+0·70	+ 2·65	+ 5·01	+ 3·52	+ 4·94	— 3·89	— 0·87	—0·92	—0·19	+13·12
	Comilla	+1·11	+1·26	—2·42	+2·51	+ 1·62	— 3·17	— 1·96	+ 4·04	+ 4·62	+ 0·71	—1·31	—0·24	+ 6·77
	Agartalla	—0·48	+0·62	—2·48	—3·93	— 3·81	— 3·05	— 0·50	— 2·70	— 3·33	+ 4·45	—1·45	+1·23	—15·43
	Noakhali	—0·05	+2·59	—2·04	+3·80	+ 7·65	— 8·25	+19·82	+11·13	+ 2·23	+11·23	—1·76	—0·39	+45·95
	Demagiri	—0·47	—0·71		Observatory closed.									
	Rangamatia Hills	—0·48	—0·85	—2·44	+6·36	+ 2·95	— 0·90	— 0·71	+ 2·23	+ 1·59	+ 7·36	+0·59	—0·54	+ 9·73
	Chittagong	—0·32	—0·41	—1·14	+1·38	+ 4·41	+ 8·70	+ 5·20	— 1·9	— 0·85	+18·37	+0·70	—0·62	+33·51
	Cox's Bazar	—0·39	—0·43	—1·14	+0·11	+ 4·89	+16·20	+18·87	+ 2·04	+ 6·50	+19·43	+ 0·48	—0·33	+66·23
Assam.	Sylhet	+1·08	+1·52	—1·09	—4·54	+ 5·59	+ 6·91	+ 5·53	+ 1·07	+ 6·11	— 0·03	—1·23	+0·77	+21·69
	Silchar	+0·11	—1·42	—2·50	+0·40	— 3·64	+13·44	+ 4·27	— 3·73	+ 3·74	+ 6·68	—1·37	—0·44	+15·54
	Cherra Poonjee	+0·53	+0·82	+29·99	+10·13	+46·13	+43·29	—55·56	+22·56	+58·85	+22·72	—1·69	+0·01	+177·78
	Tura	—0·16	+0·69	+1·87	+1·26	— 2·06	— 2·98	— 5·30	+ 4·4	— 1·07	— 1·24	—0·46	—0·68	— 5·59
	Shillong	+0·64	+0·42	—0·43	+0·80	+ 3·85	— 2·13	— 5·38	+ 1·57	+ 2·03	+ 0·25	—0·79	—0·07	+ 0·76
	Dhubri	—0·14	—0·44	+0·43	—0·72	— 2·38	+ 0·07	— 5·05	+10·86	+ 2·60	— 1·40	—0·16	—0·11	+ 3·56
	Goalpara	—0·20	+1·97	+1·80	—0·11	— 5·65	+ 0·95	— 2·57	+ 5·4 8	+ 1·63	— 1·41	—0·11	+0·15	+ 1·93
	Kulsi	+0·09	+0·83	+1·70	+0·18	— 1·93	+ 0·20	+ 3·41	+ 3·54	+ 0·12	+ 0·75	—0·28	—0·02	+ 8·59
	Gauhati	—0·26	+0·83	—0·40	+1·69	+ 2·13	+ 1·89	+ 3·68	+ 0·08	+ 0·49	+ 1·22	—0·54	+0·13	+10·94
	Nowgong	+0·06	+1·06	+0·83	+1·34	+ 3·07	+ 6·75	— 0·70	+ 8·35	+ 2·42	+ 0·75	—0·36	+0·56	+24·13
	Tezpur	+0·15	—0·02	+1·06	—0·18	+ 4·70	— 0·80	+ 0·37	+ 0·36	+ 0·21	+ 3·94	+1·86	—0·05	+11·60
	Chardner	+0·22	+1·11	+4·54	—1·07	+ 9·03	+ 0·16	+ 2·77	+ 0·91	+ 0·93	+ 9·53	—0·16	+0·87	+28·84
	Sibsagar	—0·31	+0·91	+1·62	—2·48	+ 2·03	— 0·78	— 2·40	+ 2·21	+ 1·30	— 1·65	—0·52	—0·22	— 0·29
	Dibrugarh	—0·20	+0·25	—0·91	+1·42	+ 0·34	+ 5·93	— 4·31	+ 5·39	+ 6·49	— 1·15	—0·34	—0·29	+12·62
	Kohima	+0·31	—0·09	—1·11	+0·05	— 0·59	+ 0·36	+ 8·49	— 2·19	+ 2·54	— 1·88	—1·06	+0·01	+ 4·84
Central Provinces.	Saugor	—0·68	—0·04	—0·24	0	—0·41	—2·16	— 3·71	— 9·30	— 6·61	—1·27	—0·36	—0·57	—25·35
	Damoh	—0·57	—0·23	—0·22	+0·23	—0·22	—0·01	— 2·81	— 7·09	— 6·28	—1·63	—0·34	—0·45	—19·62
	Jubbulpore	—0·64	—0·31	—0·52	—0·13	+0·44	—4·50	— 0·46	— 7·32	— 4·82	—1·64	—0·40	—0·26	—20·56
	Narsinghpur	—0·42	—0·16	—0·29	—0·06	—0·40	—5·09	— 7·87	— 1·81	— 8·40	—1·57	—0·27	—0·38	—26·72
	Hoshangabad	—0·33	+0·09	—0·23	+0·15	+0·08	—0·75	— 6·12	— 8·62	— 8·09	—1·44	—0·43	—0·47	—26·16

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
Central Provinces—*concld*	Khandwa	—0·32	—0·14	—0·10	+0·01	+0·26	—3·84	— 6·73	— 5·32	— 5·79	—1·16	—0·17	—0·42	— 23·72
	Badnur (Betul)	—0·46	+0·67	—0·61	+0·10	+0·44	—4·62	— 7·42	— 7·77	— 8·00	—1·91	—0·42	—0·52	— 30·52
	Pachmarhi	—0·57	+0·39	—0·37	—0·08	+0·13	—3·00	— 7·92	—13·67	—11·49	—2·07	—0·47	—0·58	— 39·70
	Chhindwara	—0·71	+0·48	—0·49	+0·10	+0·58	—6·20	— 7·56	— 5·07	— 7·61	—1·90	—0·46	—0·36	— 29·20
	Seoni	—0·67	—0·08	—0·48	+0·58	—0·13	—2·97	— 6·03	— 8·38	— 6·83	—2·15	—0·47	—0·61	— 28·22
	Balaghat	—0·53	—0·18	—0·29	+0·51	—0·35	—6·62	—11·61	— 6·01	— 8·10	—2·11	—0·55	—0·25	— 36·09
	Mandla	—0·56	+0·32	—0·80	—0·18	+0·12	—2·91	— 7·08	— 5·94	— 3·96	—1·66	—0·31	—0·34	— 23·30
	Bilaspur	—0·49	+0·32	—0·69	—0·07	+0·29	—5·09	— 7·18	+ 8·98	— 6·91	—1·67	—0·64	—0·29	— 13·44
	Sarangarh	—0·19	—0·43	—0·72	+1·43	+0·40	—2·21	— 3·31	— 1·82	— 6·45	—2·99	—0·79	—0·16	— 17·24
	Raigarh	—0·12	—0·31	—0·56	+2·23	—0·34	—2·19	—11·47	— 8·19	— 6·82	—2·35	—0·68	—0·23	— 31·03
	Sambalpur	—0·56	—0·57	—0·91	+1·07	—0·55	—2·31	+ 3·71	— 5·64	— 7·48	—1·97	—0·47	—0·27	— 15·95
	Raipur	—0·27	—0·27	—0·64	+1·41	+1·57	—5·65	— 8·81	— 1·93	— 6·64	—2·04	—0·69	—0·22	— 24·18
	Dhamtari	—0·21	—0·30	—0·49	+1·06	—0·09	—4·86	— 8·76	+ 4·28	— 5·49	—1·90	—0·41	—0·13	— 17·30
	Bhandara	—0·86	—0·53	—0·60	—0·01	—0·15	—3·87	—14·14	— 4·46	— 5·55	—1·84	—0·77	—0·36	— 33·14
	Nagpur	—0·61	—0·25	—0·59	—0·03	—0·14	—3·80	—10·02	— 6·90	— 6·15	—2·29	—0·55	—0·46	— 31·79
	Arvi	—0·55	—0·21	—0·42	+0·19	—0·51	—4·23	—10·48	— 2·82	— 5·20	—2·34	—0·40	—0·42	— 27·39
	Wardha	—0·37	—0·05	—0·44	+1·84	+0·10	—3·94	—12·26	— 2·62	— 4·93	—2·33	—0·63	—0·36	— 25·99
	Brahmapuri	—0·43	—0·16	—0·95	—0·09	—0·22	—4·37	—16·39	— 4·07	— 5·42	—2·20	—0·62	—0·41	— 35·33
	Chanda	—0·27	—0·61	—1·21	+1·78	—0·59	—2·85	—14·55	— 1·07	— 8·27	—2·22	—0·82	—0·33	— 31·01
	Sironcha	—0·30	—0·34	—0·59	+0·55	—0·69	—2·06	—11·32	— 4·77	— 5·85	—2·43	—0·70	—0·26	— 28·76
	Baster (Jagadalpore)	—0·11	—0·21	—0·75	+1·02	+4·58	—4·78	— 9·86	— 0·09	— 1·58	—2·66	—0·96	—0·23	— 15·63
Berar.	Chikalda	—0·57	—0·25	—0·52	+1·29	+2·03	—4·86	—10·60	—14·54	—10·11	— 4·34	—0·74	—0·87	— 45·08
	Ellichpur	—0·43	—0·14	—0·36	+0·15	+0·80	—1·35	— 6·36	— 4·28	— 3·50	—2·40	—0·62	—0·56	— 19·05
	Amraoti	—0·47	+0·21	—0·27	+0·68	+0·20	—2·98	— 6·51	— 3·97	— 3·34	—1·84	—0·40	—0·49	— 19·18
	Akola	—0·49	+0·07	—0·44	+0·84	—0·20	—1·07	— 7·37	— 4·57	— 3·09	—2·27	—0·49	—0·65	— 19·73
	Buldana	—0·57	—0·06	—0·27	+1·49	—0·06	—1·66	— 6·34	— 5·88	— 4·21	—2·32	—0·53	—0·50	— 20·91
	Basim	—0·33	+0·22	—0·24	+0·91	+0·26	—1·12	— 7·98	— 4·64	— 6·16	—2·13	—0·85	—0·50	— 22·56
	Yeotmal	—0·27	+1·29	—0·53	—0·02	—0·42	—1·01	—11·86	— 4·82	— 4·60	—2·59	—0·63	—0·43	— 25·89
	Wun	—0·33	—0·17	—0·95	+3·03	+0·17	+0·17	—11·99	— 4·40	— 2·86	—1·78	—0·82	—0·33	— 20·26
Bombay.	Dhulia	—0·30	—0·06	—0·04	+0·24	—0·11	—0·89	— 3·95	— 2·35	— 4·19	—1·78	—0·69	—0·35	— 14·47
	Nasik	—0·08	—0·04	—0·04	+0·16	+1·24	+1·06	— 6·92	— 4·00	— 1·96	—3·74	—0·53	—0·22	— 15·07
	Igatpuri	—0·16	—0·08	—0·03	+0·48	—0·98	+6·35	—28·90	—23·22	—14·35	—4·51	—0·43	—0·19	— 66·02
	Malegaon	—0·22	—0·12	—0·04	—0·16	+0·08	—1·91	— 3·72	— 2·99	— 3·95	—2·28	—0·49	—0·38	— 16·18
	Ahmednagar	—0·30	—0·14	—0·16	+0·76	—0·80	+1·40	— 2·74	— 3·13	— 3·43	—3·22	—0·97	—0·48	— 13·21
	Poona	—0·20	—0·05	—0·14	+1·53	—1·20	—1·22	— 5·42	— 3·05	— 1·16	—3·55	—0·90	—0·22	— 15·58

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
	Lonavla . .	−0·07	−0·05	−0·07	+4·54	−0·65	−5·86	−54·94	−24·96	−18·31	−4·22	−0·85	−0·18	−105·62
	Satara . .	−0·30	−0·10	−0·11	+3·10	−1·16	−2·33	−10·39	− 5·37	+ 0·36	−3·30	−1·48	−0·45	− 21·53
	Mahabaleshvar .	−0·34	−0·04	−0·33	+15·41	+0·28	−9·87	−64·32	−41·67	−21·80	−4·88	−1·34	−0·34	−129·24
	Sholapur . .	−0·07	−0·08	−0·19	−0·48	−0·47	−3·31	− 4·15	− 3·89	+ 1·10	−3·79	−0·94	−0·33	− 16·60
	Kolhapur . .	−0·07	−0·08	−0·11	−0·66	−2·11	+1·03	− 8·55	− 5·95	+ 0·61	−3·84	−0·91	−0·21	− 20·85
	Belgaum . .	−0·07	−0·03	−0·29	+1·60	−2·42	+1·69	−11·24	− 6·83	+ 3·06	−3·02	−1·40	−0·26	− 19·21
	Gokak . .	−0·08	−0·01	−0·41	+2·83	−0·18	−1·08	− 1·75	− 2·16	+ 1·53	−5·51	−1·09	−0·64	− 8·55
	Dharwar . .	−0·13	−0·02	+0·65	+1·51	−1·37	−0·26	− 3·79	− 3·82	+ 2·58	−2·85	−1·89	−0·41	− 9·80
	Hubli . .	−0·10	−0·02	−0·24	+2·34	−0·61	−0·12	− 3·23	− 2·80	+ 1·94	−1·82	−1·26	−0·22	− 6·14
	Nargund . .	−0·19	−0·03	+1·24	+0·52	−0·82	−1·15	− 1·59	− 2·72	+ 4·70	−6·07	−0·94	−0·29	− 7·34
	Mundargi . .	−0·22	0	−0·04	+3·25	−0·99	−0·85	+ 1·39	− 1·32	+ 2·31	−4·02	−1·40	−0·10	− 1·99
	Kalghatgi . .	−0·09	0	−0·30	+1·04	+0·06	+2·02	− 5·51	− 3·23	− 1·13	−1·56	−1·22	−0·21	− 10·13
	Bijapur . .	−0·06	−0·05	+0·02	+0·50	+0·27	−1·07	−2·19	−0·67	+4·07	−4·56	−1·35	−0·63	− 5·62
	Honavar . .	−0·18	0	−0·11	+4·15	+3·16	+0·72	−33·49	−11·91	−4·27	−3·72	−1·10	−0·13	− 46·88
	Karwar . .	−0·13	0	−0·04	+4·88	+1·93	−3·97	−31·09	−6·64	−6·98	−2·56	−1·48	−0·12	− 46·20
	Goa . .	−0·18	0	−0·02	+4·94	+0·65	−3·87	−27·12	−11·29	−4·80	−3·28	−1·16	−0·09	− 46·22
	Vengurla . .	−0·21	0	−0·06	+3·37	−0·29	−4·83	−29·44	−9·66	−6·19	−0·18	−0·94	−0·17	− 49·60
	Ratnagiri .	−0·69	−0·01	−0·01	+0·26	−0·42	−2·18	−24·79	−10·03	−3·24	−1·74	−0·71	−0·07	− 43·63
BOMBAY—*concld.*	Colaba (Obsy.).	−0·13	−0·02	−0·01	+1·54	−0·51	+0·15	−20·05	−9·83	−7·33	−1·81	−0·50	−0·05	− 38·55
	Byculla (J. J. Hospital).	−0·17	−0·01	−0·01	+0·87	−0·10	+0·19	−24·98	−11·37	−9·05	−2·54	−0·21	−0·04	− 47·42
	Thana . .	−0·20	−0·05	−0·06	+0·36	+0·40	−4·49	−28·79	−13·43	−8·76	−2·94	−0·25	−0·05	− 58·26
	Matheran .	−0·09	−0·01	−0·01	+1·46	−0·22	+3·87	−61·04	−32·47	−23·18	−4·92	−1·00	−0·05	−117·66
	Surat . .	−0·04	−0·02	0	−0·01	−0·14	+6·64	−15·39	−8·05	−6·15	−1·73	−0·17	−0·03	− 25·09
	Broach . .	−0·05	−0·02	−0·02	−0·01	−0·13	+0·46	−15·72	−7·82	−6·17	−1·62	−0·18	−0·04	− 31·32
	Kaira . .	−0·03	−0·15	−0·02	−0·04	−0·18	−0·71	−14·66	−8·96	−3·21	−0·57	−0·35	−0·05	− 28·93
	Bariya . .	−0·05	−0·23	0	0	+0·51	+1·31	−16·40	−11·68	−8·52	−0·99	−0·19	−0·10	− 36·34
	Godhra . .	−0·04	−0·13	−0·01	−0·01	+0·54	+0·60	−14·80	−11·39	−7·45	−0·99	−0·16	−0·06	− 33·90
	Dohad . .	−0·07	−0·17	−0·01	−0·03	+0·29	+3·39	−7·61	−8·20	−1·91	−1·19	−0·19	+0·14	− 15·56
	Ahmedabad .	−0·03	−0·08	−0·01	−0·02	−0·45	−0·93	−11·77	−8·54	−2·91	−0·62	−0·21	−0·03	− 25·60
	Idar . .	−0·05	−0·14	−0·03	−0·02	−0·05	+0·08	−16·48	−11·54	−5·56	−0·05	−0·25	−0·07	− 34·16
	Deesa . .	−0·16	−0·15	−0·09	−0·04	+0·49	−1·37	−9·56	−7·84	−3·60	−0·50	−0·15	+0·03	− 22·94
	Wadhwan . .	−0·05	−0·06	−0·04	−0·01	−0·05	+0·06	− 7·97	−3·42	−2·40	−0·49	−0·53	−0·03	− 14·99
	Palanpur . .	−0·12	−0·20	−0·07	−0·01	−0·11	−0·30	−11·00	−10·46	−5·21	−0·48	−0·11	−0·08	− 28·15
	Rajkot . .	−0·05	−0·10	−0·01	−0·01	+0·12	+0·68	−11·39	−5·95	−2·64	−0·70	−0·37	−0·06	− 20·48
	Songad . .	−0·04	−0·08	−0·06	−0·04	−0·14	+0·88	−9·07	−4·21	−3·39	−1·75	−0·25	−0·03	− 18·18
	Jetalsar . .	−0·05	−0·12	0	0	+0·20	−5·54	−13·57	−2·44	−0·76	−1·07	−0·94	−0·01	− 24·30

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inches.	Inches.	Inches.	Inches	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
HYDERABAD.	Aurangabad (Cantt.)	—0·16	+0·14	—0·08	+1·67	—0·35	—1·51	—3·41	—1·87	—5·90	—2·54	—1·15	—0·70	— 18·86
	Hingoli	—0·39	—0·18	—0·29	+1·13	+0·22	—5·37	—7·14	—4·61	—4·12	—2·57	—1·00	—0·43	— 24·75
	Parbhani	—0·07	—0·06	—0·26	+2·12	—0·03	—4·40	—6·57	—6·02	—5·38	—2·94	—0·74	—0·27	— 24·62
	Nanded	—0·13	—0·24	—0·49	+2·79	—0·18	—5·47	—6·94	—6·07	—7·95	—3·01	—0·81	—0·63	— 29·13
	Bheer	—0·12	—0·05	—0·24	—0·23	—0·58	+2·40	—5·75	—4·15	+1·14	—2·99	—1·15	—0·65	— 12 37
	Mominabad	—0·21	—0·15	—0·46	+0·35	+0·71	—2·19	—5·88	—6 61	—4·49	—2·94	—1·42	—0·97	— 24·26
	Indur (Indur)	—0·06	—0·07	—0·58	+2·64	+1·37	—0·29	—8·62	—4·55	—7·37	—2·37	—1·08	—0·39	— 21·37
	Karimnagar(Yelgandal).	—0·23	—0·09	—0·26	+1·15	+0·66	—0·69	—6·04	—1·22	—3·65	—3·08	—1·10	—0·33	— 14·88
	Kandi (Medak)	—0·06	—0·17	—0·54	+2·22	+0·73	—2·75	—4·75	—1·37	—3·90	—2·59	—1·18	—0·20	— 14·56
	Shumsabad(Ibrahimpatan).	—0·07	—0·13	—0·50	+1·05	—0·16	—1·21	—3·17	—1·68	—3·08	—2·80	—1·60	—0·18	— 13·53
	Sundanuliy(Ibrahimpatan).	—0·03	—0·21	—0·47	+0·65	—0·47	—2·08	—3·63	—2·45	—3·65	—2·91	—1·44	—0·08	— 16·77
	Dharasev (Naldurg).	—0·02	—0·03	—0·30	+0·77	—0·25	—2·72	—5·56	—5·49	—1·91	—3·48	—0·91	—0·41	— 20·31
	Bidar (Bidar)	—0·02	—0·12	—0·38	+0·25	+1·08	—0·62	—7·86	—3·62	—7·68	—4·02	—1·52	—0·62	— 25·13
	Gulbarga (Gulbarga).	—0·09	—0·15	—0·32	+0·51	+0·96	—1·70	—4·09	—5·37	—1·09	—3·26	—0·71	—0·28	— 15 59
	Bolarum	—0·12	—0·14	—0·61	+0·55	—0·30	—01 9	—2·90	—2·94	—3·00	—3·39	—1·06	—0·35	— 14·45
	Secunderabad	—0·25	—0·22	—0·40	+0·21	—0·54	—1·13	—4·12	—0·07	—2·03	—3·19	—0·98	—0·23	— 12·95
	Hyderabad (Residency).	—0·11	—0·08	—0·29	+0·38	—0·04	+0·73	—4·50	+0·63	—2·86	—3·21	—1·30	—0·45	— 11·99
	Zanawada (Hyderabad).	—0·08	—0·49	—0·77	+1·98	—0·90	—2·37	—3·05	—4·34	—3·94	—2·68	—1·18	—0·01	— 17·83
	Bhongir (Nalgunda).	—0·16	—0·08	—0·49	+0·63	+0·02	+2·09	—3·90	—3·56	—4·33	—3·25	—1·98	—0·13	— 15·14
	Hanumkonda (Warangal).	—0·28	—0·21	—0·95	+0·86	+1·04	—0·49	—3·54	—5·43	—6·24	—2·53	—1·22	0	— 18·99
	Sirpur Tandur	—0·04	—0·26	—0·48	+2·03	+0·80	—3·89	—10·79	+0·88	—4·89	—2·37	—1·19	—0·76	— 20·96
	Palmoor (Mahbubnagar)	0	—0·16	—0·71	—0·48	+0·83	—0·84	—6·77	—7·05	+4·04	—3·52	—1·02	0	— 15·68
	Raichur	—0·03	—0·06	—0·36	+0·42	—0·22	—3·14	—4·31	—3 96	+1·12	—3·86	—1·12	—0·12	— 15·64
	Raichur (Cantt.)	0	—0·11	—0·45	+1·09	—0·64	—2·98	—4·27	—4·70	+1·55	—3·05	—1·13	—0·17	— 14·86
MADRAS.	Rambha	—0·20	—0·76	—0·97	+3·11	+0·26	+2·69	+2·45	+4·66	—5·74	+8·48	—2·31	—0·89	+ 10·78
	Gopalpur	—0·11	—0·53	—0·74	+1·73	+0·10	—0·91	—1·67	—3·58	—4·93	+2·96	—4·69	—0·67	— 13·04
	Aska	—0·23	—0·60	—1·42	+1·39	—1·15	—2·85	—1·96	—0·67	—0·97	+2·82	—2·25	—0·52	— 8·41
	Vizianagram	—0·13	—0·39	—0·91	+0·33	+3·37	+0·14	+2·44	+1·99	+1·17	—2·00	—2·45	—1·16	+ 2·40
	Bimlipatam	—0·01	—0·43	—0·18	+0·10	+1·20	—2·19	—0·21	—0·14	—2·54	+2·20	—2·73	—1·00	— 5·93
	Rayaghadda	—0·14	—0·28	—1·12	+2·51	+0·06	+0·91	—3·33	—3·95	—3·57	—1·19	—1·61	—0·38	— 12·09
	Nourangapur	—0·14	—0·35	—0·46	+2·88	+3·00	—3·60	—11·88	+0·57	—8·15	—2·86	—0·85	—0·08	— 21·92
	Gunipur	—0·08	—0·61	—1·25	+2·54	+0·35	+2·13	+1·29	—2·97	—3·28	+0·15	—1·93	—0·33	— 3·99
	Jaipur	—0·07	—0·10	—0·62	+1·93	+0·62	—7·25	—6·16	+0·02	—9·90	—4·34	—1·41	—0·05	— 27·33
	Koraput	—0·10	—0·09	—0·57	+1·07	+0·13	—5·30	—4·17	—2·66	—5·53	—3·80	—1·48	—0·19	— 2·69
	Malkanagiri	—0·07	—0·06	—0·07	+1·56	+0·58	—3·63	—11·38	+0·17	—7·14	—2·83	—1·01	—0·05	— 23·93

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inches.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
MADRAS—*contd.*	Narsapatnam .	−0·18	−0·33	−0·98	+1·16	−0·02	+1·03	−3·40	−1·77	+3·50	−5·59	−2·51	−0·82	− 9·91
	Vizagapatam .	−0·06	−0·20	−0·34	+0·69	+0·71	−1·41			Observatory closed.				
	Cocanada .	+0·15	−0·28	−0·26	+1·04	−1·39	−1·99	−4·61	−1·20	−5·80	−3·76	−4·15	−0·79	−23·04
	Rajahmundry .	−0·16	−0·23	−0·29	+1·47	−1·56	−2·90	−6·04	−1·81	−2·17	−5·55	−2·00	−0·17	−21·41
	Ellore . .	−0·17	−0·09	−0·38	+1·52	−0·02	−1·86	−3·42	−0·73	+1·56	−6·14	−2·43	−0·32	−12·48
	Masulipatam .	−0·20	−0·04	−0·27	+3·76	−1·34	−3·09	−4·18	−1·89	+3·77	−6·98	−4·57	−0·59	−15·62
	Guntur . .	−0·26	−0·15	−0·49	+5·68	−0·88	−1·55	−2·74	−2·07	−2·42	−6·00	−2·52	−0·41	−13·81
	Vinukonda .	−0·21	−0·02	−0·51	+6·81	−0·91	−2·18	−1·28	−1·08	+0·08	−6·04	−3·45	−0·59	− 9·38
	Ongole . .	−0·22	−0·07	−0·24	+3·10	−0·72	−1·55	−1·86	−1·24	−0·16	−7·43	−7·57	−1·01	−18·97
	Nellore . .	−0·42	−0·08	−0·20	+2·96	−0·92	−1·10	−1·96	+0·26	−1·44	+6·51	−9·08	−3·33	− 8·80
	Udayagiri .	−0·35	−0·24	−0·49	+3·93	+0·13	−1·07	−1·71	−1·17	−1·85	−5·03	−6·41	−2·01	−16·27
	Tada . .	−0·57	−0·46	−0·21	+2·61	−1·44	−1·14	−1·86	−1·44	+5·77	+16·54	−10·26	−3·96	+ 3·58
	Kurnool . .	−0·05	−0·03	−0·38	+1·89	−1·62	−2·93	−4·38	−0·66	−1·26	−3·23	−0·97	−0·16	−13·78
	Nandyal . .	−0·08	−0·03	+0·13	+0·31	+3·01	−2·66	−5·09	−2·66	−4·34	−4·08	−1·07	−0·20	−16·76
	Bellary . .	−0·11	−0·03	−0·46	+1·47	−1·12	−0·06	−1·35	−1·33	+4·13	−2·45	−1·11	−0·22	− 2·64
	Gooty . .	−0·04	−0·05	−0·08	+1·46	−0·85	−1·51	−2·75	+1·26	+3·48	−3·71	−0·90	−0·12	− 3·81
	Adoni . .	−0·04	0	−0·29	+1·50	−0·35	−3·82	−3·34	−1·92	+4·24	−3·64	−0·88	−0·17	− 8·71
	Dharmavaram .	−0·01	−0·11	−0·18	+0·44	−0·95	−1·97	−1·65	−1·30	+2·47	−2·78	−0·57	−0·26	− 6·88
	Cuddapah .	−0·16	−0·04	−0·19	+0·60	+2·15	−2·57	−3·43	−3·10	+1·09	−2·84	−2·69	−0·76	−1
	Madanapalle .	−0·13	−0·14	−0·35	+6·17	−0·17	−2·04	−2·00	−2·63	+3·73	+0·68	−3·74	−0·97	−1
	Chittoor . .	−0·29	−0·20	−0·34	+3·83	−1·34	−1·50	−2·29	−3·58	−2·33	+1·24	−4·56	−1·56	−12
	Vellore . .	−0·51	−0·33	−0·18	+6·23	−0·64	−2·11	−2·79	−3·77	+1·19	−1·77	−5·74	−2·17	−12·59
	Chandragiri .	−0·20	−0·23	−0·24	+2·25	+0·38	−0·96	−1·51	−1·22	−0·64	−0·06	−6·79	−2·16	−11·38
	Arcot . .	−0·37	−0·45	−0·33	+5·35	−0·14	−2·73	−3·03	−0·40	−0·80	+1·20	−5·89	−2·38	− 9·97
	Madras . .	−0·80	−0·28	−0·39	+2·18	−1·08	−1·55	+0·30	−2·13	+1·24	+11·45	−12·25	−4·83	− 8·14
	Palmaner .	−0·16	−0·18	−0·40	+4·57	+0·16	−2·51	−2·61	−4·42	+0·49	−0·56	−4·28	−0·87	−10·77
	Saidapet . .	−0·51	−0·19	−0·32	+3·04	−0·02	−2·09	+2·48	−3·14	−0·50	+15·44	−13·66	−5·99	− 5·46
	Chingleput .	−0·44	−0·31	−0·13	+3·99	−0·26	−1·40	+1·18	−1·89	−0·97	+7·37	−7·84	−2·59	− 3·23
	Conjeeveram .	−0·44	−0·30	−0·12	+3·15	−1·01	−1·20	−1·16	−1·56	−1·66	+3·49	−7·03	−1·72	− 9·56
	Tindivanam .	−0·43	+0·73	−0·12	+6·80	+1·07	−1·54	+0·12	−3·92	+0·21	+4·77	−6·29	−2·68	− 1·28
	Cuddalore .	−0·84	+1·00	−0·38	+3·73	−1·03	−0·28	−1·44	−2·25	+2·37	+15·05	−9·48	−3·60	+ 2·85
	Vriddahchalam .	−0·28	−0·31	−0·30	+2·51	+2·02	−1·17	+0·52	−3·69	+0·01	+5·99	−5·06	−2·76	− 2·52
	Udayarpalaiyam .	−0·25	−0·32	−0·34	+3·19	−1·75	−0·86	−2·37	−0·46	−0·61	+9·49	−5·24	−2·23	− 1·75
	Salem . .	−0·26	−0·21	−0·87	+3·87	−0·56	−2·76	−3·04	−5·05	+6·11	−3·95	−2·35	−0·44	− 9·52
	Attur . .	−0·29	−0·28	−0·77	+1·41	+0·28	−1·78	−2·20	−2·07	−0·55	−0·04	−4·48	+0·38	−10·39

TABLE XVII —*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Madras—*contd.*	Shevaroy Hills .	—0·34	—0·24	—0·84	+5·52	—2·01	—2·27	—3·02	—7·44	+6·37	—2·94	—5·94	—1·13	—14·28
	Kumbakonam .	—0·35	—0·47	—0·52	+2·42	+0·98	—2·22	—2·37	—2·02	+0·39	+8·02	—5·43	—2·62	— 4·19
	Tirupatur .	—0·15	—0·33	—0·50	+2·43	—0·34	—2·62	—2·06	—2·94	—4·45	+0·90	—1·91	—1·36	—13·33
	Hosur . .	—0·20	—0·26	—0·49	+1·35	+0·79	—2·18	—2·46	—2·10	+4·28	—1·25	—3·59	—0·63	— 6·74
	Tranquebar .	—0·80	—0·43	—0·13	+4·59	+0·50	—0·91	—0·26	—2·34	+0·22	+22·36	—11·58	—9·77	+ 1·45
	Negapatam .	—0·51	—0·70	—0·07	+4·71	+0·57	—0·46	—0·44	—1·76	—1·09	+27·05	—4·70	—8·11	+14·49
	Tanjore . .	— 0·41	—0·40	—0·46	+4·58	+1·03	1·35	—0·86	—4·02	+ 1·57	+4·01	—3·69	—2·50	— 2·50
	Patukota . .	—0·61	—0·44	—0·49	+10·04	+0·99	—1·43	—1·53	4·86	+2·96	+4·25	—2·40	—3·27	+ 3·21
	Trichinopoly .	+0·07	—0·57	—0·62	+7·80	—0·39	—1·24	—0·56	—4·14	—1·21	—2·64	—4·59	—1·77	— 9·86
	Karur . .	—0·22	—0·11	—0·33	+2·45	—0·69	—0·84	—0·93	—2·71	+2·64	—2·53	—2·87	—1·20	— 7·34
	Coimbatore .	—0·22	+0·18	—0·58	+2·90	— 2·01	—1·28	—0·96	—1·15	+0·13	+5·36	—3·15	—0·79	— 1·57
	Kollegal . .	—0·14	—0·11	—0·93	+0·49	—1·55	—0·93	—1·93	—4·39	+6·32	—4·67	—2·55	—0·12	—10·51
	Dindigul . .	—0·48	—0·42	—0·57	+6·17	—1·78	—1·80	— 1·33	—0·68	+3·65	—0·23	—4·54	—0·59	— 2·60
	Madura (Obsy.)	0·45	—0·39	—0·70	+6·95	—2·00	—1·63	—1·59	—4·00	—1·66	—1·07	—4·53	—1·92	—12·99
	Vattanum .	—0·40	—0·86	—0·85	+8·51	—1·63	—0·86	—0·96	—1·64	—1·51	+8·67	—5·24	—4·21	— 0·98
	Periyakulam .	—0·62	—0·28	—1·90	+2·58	—2·31	—1·06	+1·05	—1·22	—1·13	+1·36	—4·32	—1·18	— 6·47
	Tinnevelly .	+0·06	+1·29	—1·18	+4·33	—1·06	—0·60	—0·23	—0·49	+0·14	+0·20	—4·84	—0·58	— 2·96
	Tuticorin .	—0·50	—0·11	—0·61	+3·18	—0·90	—0·20	—0·18	—0·33	—0·56	+8·33	—5·13	—2·06	+ 0·93
	Satur . .	—0·32	—0·58	—1·14	+3·85	—1·61	—0·65	+0·13	—1·29	—1·43	—1·90	—1·84	—1·89	— 8·67
	Cochin . .	+0·75	+5·07	+0·24	+9·94	—0·47	—1·69	—13·48	—5·20	—6·47	—2·50	—5·06	—0·04	—18·91
	Palghat . .	—0·06	+0·25	—0·84	+6·87	—1·30	+1·90	—5·21	—2·88	—1·37	+3·74	—2·83	—0·70	— 2·43
	Wellington .	—0·79	+1·02	—2·51	+8·65	—2·53	— 0·47	—2·94	—1·31	+3·88	—3·83	—7·44	—2·72	—10·99
	Manantoddy .	—0·20	+0·01	—1·26	+2·82	—1·10	+5·83	—10·39	—6·85	—0·18	—2·44	—2·33	—0·41	—16·50
	Calicut . .	—0·13	—0·18	—0·85	+17·13	—4·59	+6·25	—16·01	—10·59	—4·30	+0·99	—3·78	—1·41	—17·47
	Tellicherry .	—0·30	—0·10	—0·44	+11·34	—3·20	—3·69	—24·10	—14·45	—5·40	+1·26	—3·20	—0·87	—43·15
	Cannanore .	—0·36	—0·22	+1·14	+10·85	+2·38	—2·44	—23·59	—3·66	—2·42	—1·79	—3·22	—0·49	—33·82
	Mangalore .	—0·14	—0·07	—0·12	+9·72	—3·63	—1·11	—26·43	—10·15	—3·33	—2·84	—2·03	—0·50	—40·63
	Bangalore .	—0·19	—0·13	—0·56	+2·02	—0·20	—2·49	—3·51	—3·93	+5·68	—3·99	—2·15	—0·39	— 9·84
Mysore and Coorg.	Mysore . .	—0·08	—0·15	—0·68	—1·07	—1·16	—0·79	—2·17	—2·53	+3·12	—3·89	—1·74	—0·44	—11·58
	Shimoga . .	—0·06	—0·12	—0·10	+2·69	—2·67	+2·93	—4·90	—2·21	+3·18	—0·81	—1·43	—0·37	— 3·87
	Mercara . .	—0·21	+0·79	—0·78	+1·67	—3·07	+9·54	—18·68	—2·26	—1·83	—5·47	—2·64	—0·31	—23·25
	Kolar . .	—0·18	—0·04	—0·57	+3·64	+4·23	—3·36	—3·38	—3·23	+3·50	—1·16	—2·76	—0·53	— 3·84
	Tumkur . .	—0·16	—0·20	—0·36	—0·02	0	—2·68	—3·68	—1·70	+9·72	—3·15	—1·52	—0·39	— 4·14
	Chitaldroog .	—0·19	—0·03	—0·29	+2·57	—1·41	—1·21	—2·03	—1·21	+0·31	—3·18	—2·28	—0·41	— 9·36

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
MYSORE AND COORG—*concld.*	Chikmagalur	—0·22	—0·10	—0·72	+6·90	—2·17	+0·42	—5·74	—2·39	+1·57	—2·43	—2·37	—0·51	— 7·76
	Hassan	—0·70	—0·09	—0·51	+5·06	—1·80	+1·03	—4·52	—2·35	+3·84	—2·47	—1·83	—0·62	— 4·96
CEYLON.	Trincomallee	+1·85	—1·80	+0·61	+1·43	—2·01	—1·52	—0·03	—4·15	—1·81	—0·11	+1·89	+5·02	— 0·63
	Colombo	+3·86	+0·88	—4·06	—4·40	+5·62	+0·98	—4·05	—3·25	—3·59	—1·37	—4·05	—2·13	—15·56
	Ratnapura	—0·80	—2·93	—2·63	+2·72	+3·63	+5·54	—6·15	—5·11	—8·59	+3·84	—0·46	—2·95	—13·89
	Puttalam	+8·72	—0·11	+0·39	+2·04	—1·11	—1·44	—0·44	—0·92	—0·96	+1·53	+0·32	—4·42	+ 3·60
	Anuradhapura	+26·3	—0·37	—2·56	+2·77	+0·17	—1·66	+0·69	—2·01	—0·50	—0·46	+0·34	—3·00	— 3·96
	Mannar	+0·53	—0·89	—0·80	+0·62	+3·53	—0·62	—0·25	—0·53	—0·94	+4·04	+6·36	—4·90	+ 6·15
	Jaffna	+0·28	—1·25	—0·98	+3·64	+0·32	—0·76	—0·71	—1·50	—0·62	+12·58	—3·86	—8·23	— 1·09
	Batticaloa	+7·23	—2·45	+3·62	+0·54	—1·72	—1·11	—1·00	—1·78	—1·16	+5·49	+5·01	+9·93	+22·60
	Hambantota	+8·15	—1·69	—1·42	+0·33	+1·14	+0·28	—0·81	—1·37	—2·14	—2·30	—0·89	+2·06	+ 1·34
	Galle	+1·31	—1·11	—1·24	—2·48	+6·60	+0·78	—0·11	—0·76	—6·37	+4·37	—5·56	—1·94	— 6·51
	Kandy	+4·03	—2·59	—0·18	+9·55	+1·28	+0·86	—1·79	—1·77	+1·13	+4·80	—5·62	—1·74	+ 7·96
	Nuwara Eliya	+7·64	—2·13	+0·48	+5·22	+6·32	—0·01	—3·37	—3·51	—0·14	+3·82	—2·81	—4·23	+ 6·88
	Hakgala	—1·09	—2·51	+0·19	+4·49	+2·05	—0·29	+0·24	—2·24	—0·10	+1·27	—1·61	—6·47	— 6·07
	Badulla	+6·98	—3·32	+1·48	+1·82	—3·91	—2·45	—1·03	—2·74	—0·41	+3·18	—2·20	—2·47	— 5·07
	Kurunegala	+4·17	—1·86	—2·82	+5·37	+1·01	+0·64	—2·02	—3·46	—2·06	+1·83	—6·62	—1·45	— 7·27
BURMA.	Akyab	—0·14	—0·19	—0·46	+1·36	+3·08	+0·27	+23·84	—5·40	+3·91	+4·15	+2·92	—0·48	+32·76
	Kyaukpyu	—0·12	—0·05	—0·25	+0·61	+15·45	+1·89	+5·24	—15·44	—6·55	+3·57	—1·27	—0·54	+ 2·54
	Sandoway	—0·08	—0·05	—0·11	—0·63	+19·49	—4·17	+23·59	—6·12	—3·64	—3·43	—1·33	—0·31	+23·21
	Rangoon	—0·12	—0·27	—0·18	—1·10	+13·45	—4·10	—5·09	+8·33	+2·08	—4·82	—2·46	—0·07	+ 5·65
	Sassein	—0·18	—0·23	—0·05	+0·45	+22·89	—0·14	—2·92	—5·38	—1·26	—1·63	—0·27	—0·11	+11·17
	Diamond Island	—0·22	—0·09	—0·01	—0·98	+17·45	—7·77	—15·58	—7·40	—9·16	—5·49	—5·13	—0·82	- 34·93
	Henzada	—0·07	—0·21	—0·04	—0·45	+4·72	+1·86	+0·27	—5·87	—1·68	—2·09	+0·38	—0·07	—3·25
	Myanaung	—0·06	—0·03	—0·01	+0·46	+4·13	—1·22	+0·38	+2·42	+4·12	—2·13	—0·83	—0·12	+7·11
	Prome	—0·02	—0·01	—0·02	+1·12	+2·52	—1·30	—2·25	—2·86	—1·30	—3·33	—1·19	—0·08	—8·72
	Thayetmyo	—0·01	—0·03	—0·07	+0·61	—0·34	+0·10	+1·88	—1·65	—2·58	—3·96	—0·79	—0·13	—6·97
	Mandalay	—0·08	—0·07	—0·21	—1·37	+0·57	+0·74	+2·07	—1·60	+1·06	—1·37	+7·83	—0·11	+7·46
	Shwebo	+0·27	+0·13	—0·28	—0·74	+3·64	—2·06	—1·59	—1·19	+1·63	+2·85	+0·65	—0·05	+3·26
	Ye-u	+0·03	0	—0·48	—1·12	+3·15	—0·94	+0·52	—0·39	+3·57	+2·41	+0·64	—0·04	+7·35
	Mindu	—0·05	—0·02	0	—0·51	+7·77	+1·23	+1·96	+0·73	+1·24	+0·17	+0·74	—0·41	+12·85
	Pyinmana	—0·05	—0·09	—0·02	—0·70	+2·73	+3·55	+4·53	—0·94	—1·76	—2·19	—0·73	—0·11	+4·21
	Pagan	—0·04	—0·05	—0·16	—0·57	+0·16	—3·16	—2·09	—0·78	—2·50	—1·11	—0·25	—0·16	—10·71
	Kyauksai	—0·21	—0·04	—0·15	—1·10	—0·16	—4·05	+0·74	+1·15	+3·02	—0·16	+3·21	—0·31	+1·94

TABLE XVII.—*Comparison of the monthly and total rainfall (in inches) in 1899 with the averages of past years*—concld.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Burma—concld.	Bhamo	−0·17	−0·06	−0·63	+0·54	+6·92	+0·31	+8·80	−2·25	−0·27	+3·40	+0·80	−3·40	+16·96
	Kindat	+0·17	+0·09	−1·25	−1·42	+12·19	−0·72	+4·96	−2·42	+0·17	+1·35	−1·09	+0·33	+12·36
	Magwe	0	−0·04	0	−0·78	+6·11	−0·85	+0·60	+0·39	+2·52	−0·58	+1·38	−0·58	+8·17
	Yemethin	−0·02	−0·13	−0·11	−1·14	+1·55	−2·65	+2·70	+3·27	−3·71	+1·39	+3·37	−0·46	+4·06
	Fort Sagaing	−0·05	−0·06	−0·24	−1·03	+1·55	+1·08	+5·41	−2·02	−0·63	−1·57	+2·56	−0·22	+4·78
	Mingin	−0·14	−0·04	−0·55	−1·71	+4·00	−0·66	−0·88	+2·98	+6·59	+8·20	+0·01	−0·06	+17·74
	Toungoo	−0·07	−0·13	−0·04	−0·44	+2·48	−3·32	+11·23	+1·80	−2·39	+0·73	+1·30	−0·17	+10·98
	Shwegyin	−0·12	−0·39	−0·28	+0·16	+1·86	+1·53	+1·36	−8·82	−3·49	−5·02	−0·42	−0·08	−13·71
	Moulmein	−0·18	−0·13	−0·25	−0·07	+3·20	−10·97	+5·05	−8·37	−9·06	−4·58	+0·66	−0·02	−24·72
	Tavoy	−0·19	−0·58	+0·91	+3·58	+14·72	−9·93	+15·75	+2·78	+1·15	−5·80	+0·39	−0·09	+22·69
	Mergui	−0·44	−1·72	+3·26	+5·78	+6·02	−11·90	−17·15	−0·92	−4·04	−7·72	+0·80	−0·28	−28·31
	Myingyan	−0·06	−0·07	−0·10	−0·29	−0·68	−2·21	−0·79	+0·67	−0·43	−2·88	+0·94	+0·53	−5·37
	Monywa	0	−0·01	−0·37	−0·70	−1·20	+1·18	−2·53	+5·90	+0·79	−2·02	+0·58	−0·15	+1·47
Bay Islands.	Port Blair	−0·78	−1·04	−0·25	+2·86	−2·54	−8·53	−9·23	−5·40	+4·66	−3·09	−2·57	−2·57	−28·48
	Cocos Island	−0·33	+0·31	−0·01	+2·08	−2·75	+1·47	−7·18	−4·55	+1·15	−2·77	−6·36	−1·56	−20·50
Kashmir	Leh	−0·19	−0·13	−0·12	+0·03	+0·29	+0·18	−0·27	+0·56	−0·16	−0·16	−0·10	−0·13	−0·20
	Srinagar	−1·91	+1·39	−0·49	+2·29	−0·31	−2·22	−6·37	−5·60	−2·46	−0·16	+0·91	−0·39	−15·32
	Skardu	−1·97	+1·00	−0·82	−3·75	−0·52	−0·36	+0·17	−0·87	+0·03	−0·02	−0·05	−0·76	−7·92
	Gilgit	−0·12	+0·36	+0·39	−0·66	+0·25	−0·02	−0·70	+0·22	+0·16	−0·66	−0·05	−0·07	−0·30
Nepal	Katmandu	+0·54	−0·43	−0·01	−0·07	+0·49	−1·21	−2·42	+0·85	−3·53	−1·89	−0·18	−0·25	−8·11
Extra India.	Meshed	−0·18	+0·46	+0·18	−1·24	+0·34	−0·22	−0·03	−0·02	−0·10	+0·51	+0·67	+1·64	+2·01
	Teheran	+0·22	−0·06	−2·17	−0·24	−0·34	−0·01	−0·51	−0·09	+0·73	−0·04	+0·31	+0·28	−1·92
	Ispahan	+0·09	+0·33	−0·56	−0·93	−0·17	0	−0·10	0	0	−0·07	+0·31	+0·44	−0·66
	Bushire	−2·49	−0·50	−0·85	−0·58	−0·02	0	0	0	0	−0·10	−0·42	+0·27	−4·69
	Jask	−0·61	−0·95	−0·45	−0·06	0	0	−0·03	0	0	−0·07	+0·17	+2·34	+0·34
	Muscat	−2·36	−0·85	+0·47	−0·05	0	0	−0·08	0	0	−0·04	−0·94	−0·42	−4·27
	Baghdad	−1·33	−2·35	−1·38	−0·85	−0·21	−0·01	0	−0·13	0	+0·06	+0·05	−0·79	−6·94
	Aden	+0·10	+0·63	−1·16	−0·66	−0·21	−0·01	0	−0·19	−0·21	−0·02	−0·21	−0·49	−2·43
	Perim	−0·50	+0·07	−0·13	−0·03	+2·05	0	−0·02	+0·78	0	−0·09	−0·06	−0·10	+1·97
	Kabul	?	−0·72	−1·94	−1·31	−0·27	−0·37	−0·39	−0·17	0	+0·64	+0·27	−0·08	?
	Kashgar	−0·42	0	−0·25	−0·12	−1·65	−0·33	−0·38	+0·98	+0·05	−0·07	−0·04	+0·08	−2·15
	Zanzibar	−1·61	−2·96	+1·14	+9·12	+10·43	−0·23	+1·96	+1·00	−0·61	−2·91	−2·42	−1·52	+11·39
	Port Victoria (Seychelles), Mauritius	+0·55	−14·71	−1·68	−0·57	+0·82	−3·46	+1·11	+0·04	+6·91	+3·35	−2·64	−0·06	−10·34
		−4·87	+0·38	+3·87	−0·84	−2·60	−0·34	+0·66	+0·94	+0·24	+0·65	−0·08	−3·55	−5·54

TABLE XVIII.—*Geographical summary of rainfall anomalies in 1899.*

METEOROLOGICAL DIVISION.	Area, square miles.	Number of stations.	Normal rainfall.	Actual rainfall.	Mean excess or defect.	Total excess square miles × 1 inch.	Total defect square miles × 1 inch.
			Inches.	Inches.	Inches.		
I. Punjab Plains	120,000	29	21·71	8·93	—12·78		1,533,600
II. North-Western Provinces and Oudh	83,500	44	38·07	35·43	— 2·64		220,440
IIIa. Rajputana, East	67,000	29	27·02	11·90	—15·12		1,013,040
IIIb. Rajputana, West	58,000	10	12·51	1·32	—11·19		649,020
IV. Central India States	91,000	26	44·26	24·29	—19·97		1,817,270
V. Bihar	30,000	15	44·75	62·65	+17·90	537,000	
VI. Western Bengal	38,000	14	52·75	50·71	— 2·04		77,520
VII. Lower Bengal	54,000	28	65·53	76·63	+11·10	599,400	
VIII. Assam and Cachar	61,000	17	95·19	105·57	+10·38	633,180	
IX. Orissa and Northern Circars	27,000	32	52·75	42·18	—10·57		285,390
X. Central Provinces, South	61,000	19	53·46	26·11	—27·35		1,668,350
XI. Berar and Khandesh	43,000	13	36·41	14·79	—21·62		929,660
XII. Gujarat	54,500	13	33·82	7·33	—26·49		1,443,705
XIII. Sind and Cutch	68,000	10	8·59	0·77	— 7·82		531,760
XIV. North Deccan	48,000	13	30·83	18·79	—12·04		577,920
XV. Konkan and Ghâts	16,000	11	139·95	71·96	—67·99		1,087,840
XVI. Malabar and Ghâts	18,000	8	114·50	89·98	—24·52		441,360
XVII. Hyderabad	74,000	17	34·58	16·53	—18·05		1,335,700
XVIII. Mysore and Bellary	58,000	18	29·28	21·57	— 7·71		447,180
XIX. Carnatic	72,000	36	36·94	31·00	— 5·94		427,680
XX. Arakan	11,000	6	152·36	180·49	+28·13	309,430	
XXI. Pegu	32,500	7	72·24	74·52	+ 2·28	74,100	
XXII. Tenasserim	10,500	4	173·30	162·29	—11·01		115,605
XXIII. Upper Burma	?	13	39·02	44·93	+ 5·91		

On the mean of the whole area represented in the above table there was a defect of 10·41 inches or, excluding the Burmese Peninsula, of 11·14 inches.

TABLE XIX.—*Geographical summary of the distribution of rainfall in 1899 according to seasons.*

Meteorological Division.	January and February.			March to May.			June to October.			November and December.		
	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
North-West Himalayas	6·43	3·73	—2·70	7·21	4·66	—2·55	41·54	34·18	— 7·36	1·74	0·13	—1·61
Punjab Plains	2·24	0·78	—1·46	2·75	1·04	—1·71	16·22	7·10	— 9·12	0·75	0·02	—0·73
North-Western Provinces and Oudh.	1·48	0·83	—0·65	1·41	1·59	+0·18	35·69	34·19	— 1·50	0·45	0	—0·45
Rajputana	0·55	0	—0·55	0·76	0·60	—0·16	21·59	8·53	—13·06	0·39	0·06	—0·33
Central India States	0·97	0·40	—0·57	0·80	0·57	—0·23	41·76	23·31	—18·45	0·73	0·03	—0·70
Bihar	1·19	1·87	+0·68	2·51	3·92	+1·41	40·34	55·32	+14·98	0·34	0	—0·34
Western Bengal and Chota Nagpur.	1·38	1·34	—0·04	3·59	4·07	+0·48	47·13	45·32	— 1·81	0·65	0	—0·65
Lower Bengal	1·41	1·79	+0·38	10·64	12·48	+1·84	52·25	62·49	+10·24	0·79	0·03	—0·76
Eastern Himalayas	1·65	2·24	+0·59	18·38	19·24	+0·86	104·53	110·07	+ 5·54	0·50	0·71	+0·21
Assam and Eastern Bengal	1·83	2·66	+0·83	22·77	24·00	+1·23	69·30	78·12	+ 8·82	1·27	0·79	—0·48
Orissa and Northern Circars	0·74	0·20	—0·54	4·75	6·43	+1·68	44·68	35·90	— 8·78	2·42	0·04	—2·38
Central Provinces, South	0·86	0·32	—0·54	1·84	1·89	+0·05	49·58	23·90	—25·68	0·90	0	—0·90
Berar and Khandesh	0·53	0·25	—0·28	1·13	2·00	+0·87	33·56	12·56	—21·00	1·19	0	—1·19
Gujarat	0·18	0	—0·18	0·37	0·38	+0·01	32·72	7·50	—25·22	0·35	0·03	—0·32
Sind and Cutch	0·53	0·02	—0·51	0·46	0·55	+0·09	8·22	0·11	— 8·11	0·22	0·02	—0·20
North Deccan	0·19	0	—0·19	3·36	3·82	+0·46	25·71	14·96	—10·75	1·55	0	—1·55
Konkan and Ghâts	0·23	0	—0·23	1·71	5·44	+3·73	132·38	63·56	—68·82	0·97	0·02	—0·95
Malabar and Ghâts	0·50	1·12	+0·62	11·39	17·93	+6·54	98·53	70·58	—27·95	4·09	0·36	—3·73
Hyderabad	0·27	0	—0·29	1·95	2·63	+0·68	30·80	13·88	—16·92	1·49	0	—1·49
Ceded Districts and Mysore	0·25	0	—0·25	4·82	6·20	+1·38	21·63	15·10	— 6·53	2·57	0·28	—2·29
Carnatic	0·89	0·38	—0·51	3·97	7·23	+3·26	21·05	20·16	— 0·89	10·97	2·84	—8·13
Nilgiris	2·05	2·28	+0·23	9·56	13·17	+3·61	26·85	22·18	— 4·67	11·91	1·75	—10·16
Arakan	0·97	0·31	—0·66	16·37	24·29	+7·92	125·56	153·09	+27·53	2·95	2·76	—0·19
Pegu	0·22	0	—0·22	8·46	16·79	+8·33	66·57	57·41	— 9·16	2·89	1·57	—1·32
Tenasserim	1·02	0·08	—0·94	22·02	31·75	+9·73	147·95	127·92	—20·03	2·32	2·56	+0·24
Upper Burma	0·24	0·18	—0·06	6·12	8·20	+2·08	29·78	32·33	+ 2·55	1·56	2·78	+1·22
Bay Islands	1·17	0·26	—0·91	15·03	14·73	—0·30	69·08	52·32	—16·76	11·73	5·21	—6·52

TABLE XX.—*Average actual and normal rainfall data of the 57 meteorological divisions in India for the four seasons of the year 1899 and for the whole year.*

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Burma	1. Tenasserim	0			34·13			160·68			3·27			198·08		
	2. Lower Burma	0·01			23·06			65·37			1·89			90·33		
	3. Central do.	0			8·92			40·54			0·91			50·37		
	4. Upper do.	0·27	0·24	+0·03	10·06	6·12	+3·94	37·12	29·78	+ 7·34	3·03	1·56	+ 1·47	50·48	37·70	+12·78
	5. Arakan	0			21·46			164·11			2·28			187·85		
Bengal and Assam.	6. Eastern Bengal	2·63	1·42	+1·21	22·08	17·24	+4·84	84·57	68·05	+16·52	0·32	1·58	— 1·26	109·60	88·29	+21·31
	7. Assam Surma	2·98	1·97	+1·01	35·12	37·77	—2·65	97·70	85·63	+12·07	0·56	1·24	— 0·68	136·36	126·61	+ 9·75
	8. Do. Hills	2·47	2·06	+0·41	35·04	25·29	+9·75	110·93	109·25	+ 1·68	1·37	1·53	— 0·16	149·81	138·13	+11·68
	9. Do. Brahmaputra	2·58	2·39	+0·19	25·58	23·77	+1·81	72·36	60·82	+11·54	1·23	0·93	+ 0·30	101·75	87·91	+13·84
	10. Deltaic Bengal	1·48	1·64	—0·16	14·20	10·15	+4·05	57·54	47·67	+ 9·87	0	1·09	— 1·09	73·22	60·55	+12·67
	11. Central do.	2·11	1·30	+0·81	5·98	7·71	—1·73	54·61	46·60	+ 8·01	0	0·67	— 0·67	62·70	56·28	+ 6·42
	12. North do.	0·99	1·02	—0·03	13·11	15·57	—2·46	89·79	77·86	+11·93	0·14	0·25	— 0·11	104·03	94·70	+ 9·33
	13. Bengal Hills	2·97	1·68	+1·29	22·31	18·52	+3·79	113·30	117·39	— 4·09	0·89	0·66	+ 0·23	139·47	138·25	+ 1·22
	14. Orissa	0·46	1·18	—0·72	9·50	6·77	+2·73	44·42	51·31	— 6·89	0·03	2·41	— 2·38	54·41	61·67	— 7·26
	15. Chota Nagpur	0·98	1·41	—0·43	3·84	4·16	—0·32	40·32	47·36	— 7·04	0	0·71	— 0·71	45·14	53·64	— 8·50
	16. South Bihar	2·04	1·29	+0·75	2·16	2·37	—0·21	51·75	39·84	+11·91	0	0·39	— 0·39	55·95	43·89	+12·06
	17. North do.	1·35	1·21	+0·14	5·70	4·34	+1·36	64·03	46·69	+17·34	0	0·23	— 0·23	71·08	52·47	+18·61
North-Western Provinces and Oudh.	18. North-Western Provinces East.	1·22	0·99	+0·23	1·28	0·91	+0·37	43·47	36·02	+ 7·45	0	0·37	— 0·37	45·97	38·29	+ 7·68
	19. South Oudh	1·02	0·95	+0·07	1·25	0·99	+0·26	37·20	33·74	+ 3·46	0	0·43	— 0·43	39·47	36·11	+ 3·36
	20. North do.	1·15	1·09	+0·06	2·29	1·55	+0·74	39·64	35·89	+ 3·75	0	0·42	— 0·42	43·08	38·95	+ 4·13
	21. North-Western Provinces Central.	0·36	0·78	—0·42	0·60	0·73	—0·13	32·57	32·41	+ 0·16	0	0·39	— 0·39	33·33	34·31	— 0·78
	22. North-Western Provinces West.	0·19	0·88	—0·69	1·05	1·04	+0·01	17·74	24·06	— 6·32	0	0·35	— 0·35	18·98	26·33	— 7·35
	23. North-Western Provinces East Submontane.	1·11	1·01	+0·10	3·10	1·75	+1·35	55·43	39·50	+15·93	0	0·27	— 0·27	59·64	42·53	+17·11
	24. North-Western Provinces West Submontane.	1·17	2·49	—1·32	1·76	2·12	—0·36	29·48	41·07	—11·59	0	0·60	— 0·60	32·41	46·28	—13·87
	25. North-Western Provinces Hills.	2·82	4·63	—1·81	4·45	5·16	—0·71	43·82	50·67	— 6·85	0	0·73	— 0·73	51·09	61·19	—10·10
Punjab	26. South-East Punjab	0·16	1·13	—0·97	0·45	1·32	—0·87	9·91	20·76	—10·85	0	0·33	— 0·33	10·52	23·54	— 13·02
	27. South Punjab	0·05	1·08	—1·03	0·37	1·40	—1·03	5·33	13·21	— 7·88	0·01	0·33	— 0·32	5·76	16·02	— 10·26
	28. Central do.	0·34	2·00	—1·66	1·02	2·36	—1·34	6·30	14·00	— 7·70	0·01	0·52	— 0·51	7·67	18·88	— 11·21
	29. Punjab Submontane.	0·95	2·90	—1·95	1·27	2·69	—1·42	12·19	24·96	—12·77	0·01	0·75	— 0·74	14·42	31·30	— 16·88
	30. Punjab Hills	3·63	6·38	—2·75	4·02	8·46	—4·44	30·04	45·12	—15·08	0·11	1·63	— 1·52	37·80	61·59	— 23·79

TABLE XX.—*Average actual and normal rainfall data of the 57 meteorological divisions in India for the four seasons of the year 1899 and for the whole year*—concld.

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Punjab—*concld.*	31. North Punjab	2·57	3·11	−0·54	3·57	4·55	−0·98	9·28	12·26	− 2·98	0·16	1·23	− 1·07	15·58	21·15	− 5·57
	32. West Do.	0·57	0·98	−0·41	0·35	1·40	−1·05	2·48	6·25	− 3·77	0·01	0·27	− 0·26	3·78	8·90	− 5·12
Bombay and Malabar Coast District (Madras.)	33. Malabar	0·35	0·35	0	18·14	9·88	+8·26	82·78	113·58	−30·80	0·26	4·81	− 4·55	101·53	128·62	−27·09
	33A. Travancore	1·78			19·65			49·37			4·97			75·77		
	34. Madras South-Central.	0·11	0·25	−0·14	7·79	6·16	+1·63	14·54	17·93	− 3·39	0·94	5·11	− 4·17	23·38	29·45	− 6·07
	35. Coorg	0·46			10·11			59·92			0·11			70·60		
	36. Mysore	0·03	0·16	−0·13	7·31	5·15	+2·16	20·87	25·88	− 5·01	0·24	3·18	− 2·94	28·45	34·37	− 5·92
	37. Konkan	0·01	0·12	−0·11	4·95	2·08	+2·87	53·09	111·62	−58·53	0·04	1·24	− 1·20	58·09	115·06	−56·97
	38. Bombay Deccan	0	0·10	−0·10	4·14	2·78	+1·36	16·74	31·76	−15·02	0	1·85	− 1·85	20·88	36·49	−15·61
	39. Hyderabad North	0	0·15	−0·15	3·26	1·58	+1·68	14·44	33·46	−19·02	0	2·00	− 2·00	17·70	37·19	−19·49
	40. Khandesh	0	0·13	−0·13	1·48	1·23	+0·25	11·94	29·93	−17·99	0	1·48	− 1·48	13·42	32·77	−19·35
Central Provinces and Berar.	41. Berar	0·23	0·65	−0·42	1·83	1·25	+0·58	10·75	37·48	−26·73	0	1·18	− 1·18	12·81	40·56	−27·75
	42. Central Provinces West.	0·26	0·76	−0·50	1·21	0·93	+0·28	16·52	42·05	−25·53	0	0·88	− 0·88	17·99	44·62	−26·63
	43. Central Provinces Central.	0·44	0·74	−0·30	1·00	1·27	−0·27	24·49	48·90	−24·41	0	0·67	− 0·67	25·93	51·58	−25·65
	44. Central Provinces East.	0·31	0·80	−0·49	2·45	1·94	+0·51	33·55	46·53	−13·00	0	0·74	− 0·74	36·31	50·03	−13·72
Bombay (North)	45. Gujarat	0	0·08	−0·08	0·27	0·32	−0·05	11·85	43·39	−31·54	0·02	0·24	− 0·22	12·14	44·03	−31·89
	46. Kathiawar and Cutch.	0	0·14	−0·14	0·36	0·37	−0·01	5·40	26·20	−20·80	0·03	0·36	− 0·33	5·79	27·07	−21·28
	47. Sind	0·01	0·71	−0·70	0·70	0·60	+0·10	0·04	4·51	− 4·47	0·02	0·18	− 0·16	0·77	6·00	− 5·23
	48. Baluchistan Hills	1·67	3·66	−1·99	1·99	1·68	+0·31	0·45	2·48	− 2·03	0·47	1·62	− 1·15	4·58	9·44	− 4·86
Rajputana and Central India.	49. Central India East	0·19	0·98	−0·79	0·42	0·76	−0·34	26·38	40·95	−14·57	0·04	0·72	− 0·68	27·03	43·41	−16·38
	50. Rajputana East, Central India West.	0·02	0·69	−0·67	0·60	0·81	−0·21	14·09	26·19	−12·10	0·03	0·49	− 0·46	14·74	28·18	−13·44
	51. West Rajputana	0	0·43	−0·43	0·24	0·72	−0·48	2·15	11·15	− 9·00	0·08	0·25	− 0·17	2·47	12·55	−10·08
Madras	52. East Coast North	0·07	0·42	−0·35	5·78	3·38	+2·40	25·14	32·39	− 7·25	0·04	4·25	− 4·21	31·03	40·44	− 9·41
	52A. Do. do. do.(a)	0	0·26	−0·26	6·22	4·88	+1·34	36·46	51·93	−15·47	0	3·14	− 3·14	42·68	60·21	−17·53
	53. Hyderabad South	0	0·26	−0·26	2·19	2·25	−0·06	13·98	25·52	−11·54	0	1·43	− 1·43	16·17	29·46	−13·29
	54. Madras Central	0	0·08	−0·08	3·64	2·50	+1·14	13·94	21·12	− 7·18	0·31	2·88	− 2·57	17·89	26·58	− 8·69
	55. East Coast Central	0·02	0·67	−0·65	3·66	2·05	+1·61	20·86	20·53	+ 0·33	1·05	11·94	−10·89	25·59	35·19	− 9·60
	56. East Coast South	0·36	0·77	−0·41	7·29	4·21	+3·08	25·76	23·73	+ 2·03	4·12	13·79	− 9·67	37·53	42·50	− 4·97
	57. Madras South	1·69	1·18	+0·51	8·61	5·13	+3·48	11·69	12·13	− 0·44	3·86	10·14	− 6·28	25·85	28·58	− 2·73

TABLE XXI.—*Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1899 and for the whole year.*

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.
Burma	1. Tenasserim	0·1			30·7			114·8			5·4			151·0		
	12. Lower Burma	0			23·1			98·4			3·5			125·0		
	13. Central do.	0			16·1			73·8			2·0			91·9		
	4. Upper do.	0·8			12·6			50·4			4·6			68·4		
	5. Arakan	0			20·7			112·3			3·9			136·9		
Bengal and Assam	6. Eastern Bengal	5·1	2·5	+2·6	22·6	19·4	+3·2	80·3	71·3	+ 9·0	0·3	2·0	—1·7	108·3	95·2	+13·1
	7. Assam Surma	6·0	4·2	+1·8	38·5	37·5	+1·0	91·5	83·3	+ 8·2	1·2	2·0	—0·8	137·2	127·0	+10·2
	8. Do. Hills	7·3	4·6	+2·7	32·8	31·5	+1·3	95·0	90·5	+ 4·5	2·4	2·7	—0·3	137·5	129·3	+ 8·2
	9. Do. Brahmaputra	7·2	6·6	+0·6	33·7	34·7	—1·0	77·8	68·5	+ 9·3	3·0	2·2	+0·8	121·7	112·0	+ 9·7
	10. Deltaic Bengal	3·4	2·6	+0·8	17·2	13·9	+3·3	62·0	62·4	— 0·4	0	1·4	—1·4	82·6	80·3	+ 2·3
	11. Central do.	4·6	2·4	+2·2	9·6	11·0	—1·4	59·7	58·9	+ 0·8	0	1·0	—1·0	73·9	73·3	+ 0·6
	12. North do.	2·4	2·1	+0·3	16·6	17·7	—1·1	76·4	64·8	+11·6	0·3	0·5	—0·2	95·7	85·1	+10·6
	13. Bengal Hills	6·2	4·0	+2·2	31·3	24·7	+6·6	96·9	90·7	+ 6·2	2·9	1·7	+1·2	137·3	121·1	+16·2
	14. Orissa	1·3	2·0	—0·7	13·6	9·1	+4·5	52·2	58·9	— 6·7	0	2·6	—2·6	67·1	72·6	— 5·5
	15. Chota Nagpur	2·3	2·8	—0·5	7·4	6·8	+0·6	49·4	59·5	—10·1	0	1·1	—1·1	59·1	70·2	—11·1
	16. South Bihar	3·3	2·5	+1·0	4·3	3·6	+0·7	50·1	46·8	+ 3·3	0	0·6	—0·6	57·9	53·5	+ 4·4
	17. North do.	3·6	2·4	+1·2	7·5	6·4	+1·1	58·6	49·4	+ 9·2	0	0·6	—0·6	69·7	58·8	+10·9
North-Western Provinces and Oudh	18. North-Western Provinces East.	2·5	2·2	+0·3	2·3	2·1	+0·2	42·9	40·9	+ 2·0	0	0·6	—0·6	47·7	45·8	+ 1·9
	19. South Oudh	2·5	2·0	+0·5	1·9	2·2	—0·3	38·8	37·8	+ 1·0	0	0·7	—0·7	43·2	42·7	+ 0·5
	10. North do.	3·2	2·1	+1·1	4·1	3·1	+1·0	42·7	38·1	+ 4·6	0	0·7	—0·7	50·0	44·0	+ 6·0
	21. North Western Provinces Central.	1·2	1·9	—0·7	1·5	1·9	—0·4	33·3	36·1	— 2·8	0	0·6	—0·6	36·0	40·5	— 4·5
	22. North-Western Provinces West.	0·7	2·2	—1·5	2·5	2·7	—0·2	23·1	27·5	— 4·4	0	0·5	—0·5	26·3	32·9	— 6·6
	23. North-Western Provinces East Submontane.	3·0	2·2	+0·8	5·4	3·1	+2·3	49·8	41·6	+ 8·2	0	0·6	—0·6	58·2	47·5	+10·7
	24. North-Western Provinces West Submontane.	2·1	4·5	—2·4	4·7	4·4	+0·3	33·4	37·3	— 3·9	0	1·1	—1·1	40·2	47·3	— 7·1
	25. North-Western Provinces Hills.	5·7	8·1	—2·4	9·3	11·1	—1·8	48·5	58·0	— 9·5	0	1·7	—1·7	63·5	78·9	—15·4
Punjab	26. South-East Punjab	0·4	2·5	—2·1	1·6	3·0	—1·4	16·0	22·7	— 6·7	0	0·8	—0·8	18·0	29·0	—11·0
	27. South do.	0·2	2·4	—2·2	1·3	2·9	—1·6	9·2	15·5	— 6·3	0	0·6	—0·6	10·7	21·4	—10·7
	28. Central do.	1·2	4·1	—2·9	2·9	4·8	—1·9	10·0	15·9	— 5·9	0	0·8	—0·8	14·1	25·6	—11·5
	29. Punjab Submontane	1·7	5·0	—3·3	3·8	4·9	—1·1	18·2	24·4	— 6·2	0	1·1	—1·1	23·7	35·4	—11·7
	30. Do. Hills	6·5	8·7	—2·2	11·6	13·3	—1·7	35·3	45·6	—10·3	0·4	2·2	—1·8	53·8	69·8	—16·0

TABLE XXI.—*Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1899 and for the whole year*—concld.

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.
Punjab—*concld.*	31. North Punjab	5·5	5·4	+0·1	8·1	7·8	+0·3	14·8	15·4	— 0·6	0·6	1·6	—1·0	29·0	30·2	— 1·2
	32. West do.	1·6	2·4	—0·8	1·1	2·9	—1·8	4·5	8·6	— 4·1	0	0·4	—0·4	7·2	14·3	— 7·1
Bombay and Malabar Coast Districts (Madras).	33. Malabar	0·3	0·5	—0·2	21·3	12·4	+8·9	72·0	100·6	—28·6	0·6	7·0	—6·4	94·2	120·5	—26·3
	33A. Travancore	2·1			25·2			57·5			5·5			90·3		
	34. Madras South-Central.	0·2	0·5	—0·3	11·6	9·1	+2·5	22·3	27·8	— 5·5	2·1	8·5	—6·4	36·2	45·9	— 9·7
	35. Coorg	1·0			19·0			74·1			0·4			94·5		
	36. Mysore	0·1	0·3	—0·2	11·4	8·7	+2·7	32·7	38·9	— 6·2	0·7	4·9	—4·2	44·9	52·8	— 7·9
	37. Konkan	0	0·2	—0·2	6·0	3·2	+2·8	65·6	93·7	—28·1	0·1	2·0	—1·9	71·7	99·1	—27·4
	38. Bombay Deccan	0	0·3	—0·3	6·6	5·6	+1·0	29·3	45·9	—16·6	0	3·1	—3·1	35·9	54·9	—19·0
	39. Hyderabad North	0			7·3			24·6			0			31·9		
	40. Khandesh	0	0·2	—0·2	3·2	2·1	+1·1	21·3	42·1	—20·8	0	2·2	—2·2	24·5	46·6	—22·1
Central Provinces and Berar.	41. Berar	0·8			5·0			19·8			0			25·6		
	42. Central Provinces West.	0·9	1·4	—0·5	3·3	2·3	+1·0	25·4	49·2	—23·8	0	1·1	—1·1	29·6	54·0	—24·4
	43. Central Provinces Central.	1·1	1·6	—0·5	3·2	2·8	+0·4	31·5	52·4	—20·9	0	1·1	—1·1	35·8	57·9	—22·1
	44. Central Provinces East.	0·6	1·6	—1·0	6·1	3·7	+2·4	40·1	49·5	— 9·4	0	1·1	—1·1	46·8	55·9	— 9·1
Bombay (North)	45. Gujarat	0	0·2	—0·2	0·7	0·5	+0·2	16·6	47·7	—31·1	0·1	0·5	—0·4	17·4	48·9	—31·5
	46. Kathiawar and Cutch.	0	0·2	—0·2	0·8	0·6	+0·2	8·2	27·3	—19·1	0·1	0·2	—0·1	9·1	28·3	—19·2
	47. Sind	0			1·6			0·1			0·2			1·9		
	48. Baluchistan Hills	4·3			4·6			1·0			2·0			11·9		
Rajputana and Central India.	49. Central India, East	0·7			1·3			26·0			0·1			28·1		
	50. Rajputana East, and Central India West.	0·1			1·8			16·6			0·1			18·6		
	51. West Rajputana	0			0·6			4·1			0·2			4·9		
Madras	52. Madras East Coast North.	0·2	0·7	—0·5	8·1	5·3	+2·8	35·5	43·3	— 7·8	0	4·3	—4·3	43·8	53·6	— 9·8
	52A. Do. do. (*a*)	0	0·7	—0·7	11·0	9·7	+1·3	55·0	67·6	—12·6	0	5·3	—5·3	66·0	83·3	—17·3
	53. Hyderabad South	0			6·0			24·4			0			30·4		
	54. Madras Central	0	0·2	—0·2	7·1	4·2	+2·9	21·9	30·7	— 8·8	0·6	4·3	—3·7	29·6	39·4	— 9·8
	55. Madras East Coast Central.	0	0·8	—0·8	4·7	2·5	+2·2	23·8	27·1	— 3·3	1·6	10·5	—8·9	30·1	40·9	—10·8
	56. Do. South	0·9	1·0	—0·1	9·4	4·8	+4·6	27·6	32·2	— 4·6	5·6	14·0	—8·4	43·5	52·0	— 8·5
	57. Madras South	1·2	1·8	—0·6	11·4	7·5	+3·9	16·4	18·8	— 2·4	6·9	13·1	—6·2	35·9	41·2	— 5·3

I.—The cold weather period.—January was unusually free from cold weather storms in Northern India. The leading features of the month over nearly the whole of India were abnormal dryness of the air, small amount of cloud and scanty rainfall. In Northern and Central India, the Central Provinces, Berar and the North Deccan temperature was on the mean of the month considerably lower than usual, the deficiency being slightly more marked in the night than the day temperature. The abnormal features of the meteorology of the month were very similar to those of January 1898, and were chiefly due to the comparative absence of cold weather storms during the month in the Persian area and Northern India and to a steady persistent excess of pressure in the Persian area and a strong outflow of cold dry air from that area to the Indian region.

As already mentioned, January was unusually dry and free from cold weather disturbances, and hence the rainfall was generally very scanty and more or less below the normal.

Two depressions, which originated in the Central Provinces and Berar during the first week of January and advanced rapidly eastwards, gave light to moderate rain in the Gangetic Plain, Bengal and Orissa and moderate showers in the Punjab and Kashmir hills. A disturbance in North-Eastern India, resembling those of the hot weather months and hence not of the cold weather type, gave numerous thundershowers in that area on the 26th, 27th and 28th. Light occasional showers were also received in South Madras. Over a large part of the country, including the Upper Sub-Himalayas, Indus Valley and Rajputana, Central India and Gujarat and the Deccan, the rainfall was practically or actually *nil*. It was small in amount and in moderate to considerable defect in South India, practically normal in the West Coast, Burma Inland and Assam, and in marked excess in Bengal, Orissa and the Gangetic Plain.

There were in all six disturbances or cold weather storms during the month of February—a larger number than usual. They were, however, very feeble and gave much less rain, both in amount and extent, than occasionally accompanies these storms. The periods of disturbance and hence of partial or general rainfall were the 2nd and 3rd, the 5th to the 7th, the 9th to the 13th, the 14th to the 16th and the 25th to the 28th.

The first disturbance gave rain only to Baluchistan and the Punjab, the second and third to Northern India generally, the fourth to Baluchistan, the Punjab and Assam and the sixth to Bengal and Assam only.

The rainfall of the month was small in amount in the areas of rainfall, and was more or less in defect. It was locally in excess in the Indus Valley and North-West Rajputana and the West Coast.

The following data show that the precipitation of the cold weather period was largely below the normal at most of the hill stations in Upper India :—

Station.	Rainfall.					
	Actual, January	Actual, February	Total actual of period, January and February	Total normal of period, January and February.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Murree . . .	0·16	3·02	3·18	7·25	−4·07	−56
Simla	0·76	2·23	2·99	5·03	−2·04	−41
Dalhousie . . .	2·18	3·95	6·13	5·80	+0 33	+ 6
Dharmsala . . .	1·59	4·68	6·27	8·95	−2·68	−30
Mussoorie . . .	2·11	2·66	4·77	5·72	−0·95	−17
Ranikhet . . .	1·32	1·97	3·29	4·89	−1·60	−33
Kailang . . .	0·42	3·17	3·59	6·27	−2·68	−43

Accurate snowfall measurements are now made at several stations in the Punjab Himalayas. The following gives the amounts registered at four of these stations, where the measurements are believed to be carefully taken :—

District or State.	Station.	Height, in feet, above sea-level.	Total snowfall in the month of				Total.		Approximate normal snowfall of period.	
			January		February					
			ft.	in.	ft.	in.	ft.	in.	ft.	in.
Punjab .	Murree . .	6,344	0	3	6	4	6	7	11	9
Chamba .	Kilar . .	8,000	0	2	5	6	5	8		
	Thanela .	7,000	?		0	9				
	Kalatop .	8,000	2	0	3	0	5	0		

The rainfall of the period was largely in defect, relatively to the normal, over the whole of North-Western and Central India and in Baluchistan, as shown below :—

Area.	Rainfall of period, January and February.			
	Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Baluchistan	1·67	3·66	−1·99	−54
Punjab	0·77	1·87	−1·10	−59
North-Western Provinces and Oudh.	0·89	1·17	−0·28	−24
Rajputana	0·01	0·56	−0·55	−98
Sind	0·01	0·71	−0·70	−99
Central India	0·19	0·98	−0·79	−81

The deficiency was very pronounced in Upper India in both months, but more largely in January than in February.

North-Eastern India, with the exception of Chota Nagpur and Orissa, received more than the normal amount of rain, due chiefly to the passage of two depressions in January into that area from the Central Provinces, and in part to a series of hot weather thunderstorms in East Bengal and Assam in February. The rainfall of the period was, on the other hand, in defect in Burma, Orissa and Chota Nagpur. The following gives data :—

Area.	Rainfall of period, January and February.			
	Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inch.	
Bihar	1·70	1·25	+0·45	+36
Chota Nagpur	0·98	1·41	—0·43	—30
Bengal	1·80	1·35	+0·45	+33
Orissa	0·46	1·18	—0·72	—61
Assam	2·78	2·18	+0·60	+28
Burma	0·06	0·21	—0·15	—71

The rainfall of the period was very scanty in the Peninsula, except in South Madras, which received moderate rain from thunderstorms in February and Malabar which obtained its normal amount.

The following gives comparative data for that area :—

Area.	Rainfall of period, January and February.			
	Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inch.	
Central Provinces	0·34	0·77	—0·43	— 56
Berar	0·23	0·65	—0·42	— 65
Hyderabad	0	0·21	—0·21	—100
Bombay Deccan	0	0·10	—0·10	—100
Madras Central	0	0·08	—0·08	—100
Madras Coast	0·15	0·62	—0·47	— 76
Malabar	0·35	0·35	0	0
Konkan	0·01	0·12	—0·11	— 92
Mysore	0·03	0·16	—0·13	— 81
Madras, South	1·69	1·18	+0·51	+ 43

II.—The hot weather period.—The rainfall of March was largely in defect over nearly the whole of India. A number of depressions, originating either in the Persian area, Baluchistan or Sind, crossed Northern India during the first three weeks of the month. They gave little cloud and no rain over the greater part of the districts they traversed. Baluchistan, Kashmir, the Punjab hills and the North Punjab received moderate showers during the advance of these depressions across North-Western India, and hence obtained almost daily rain from the 3rd to the 17th. North and East Bengal and Assam had moderate rain during the later stages of two of these storms, chiefly from the 3rd to the 11th and on the 14th, 15th and 18th. A strong influx of local sea winds across the Bengal Coast in the last week of the month gave a moderate burst of rain accompanying thunderstorms in Assam and North and East Bengal from the 27th to the 31st. This rainfall was heaviest in the Cachar and Sylhet districts and the Khasi and Jaintia hills.

Over by far the greater part of India the rainfall was absolutely or practically nil.

April was more disturbed than usual over the whole of India. A succession of five depressions formed in Sind and passed eastwards across Upper India. Each depression during its advance gave series of duststorms in the plains and thunderstorms in the lower ranges and snow storms in the higher ranges of the Kashmir and Punjab Himalayas.

The most abnormal feature of the month was an unusually prolonged and excessive burst of rain (accompanying thunderstorms) between the 10th and 24th in the Peninsula and North-Eastern India. The rainfall of the month was hence in excess over the greater part of India, and the excess was abnormally large in the southern half of the Peninsula.

No rain fell during the month in Sind, Rajputana West, Central India, North Bombay, the West Punjab and Baluchistan. The North and Submontane Punjab and the hill districts to the north and east of the Punjab received frequent light to moderate rain or snow showers during the passage of each of the series of five depressions which advanced across North-Western India during the month. Afghanistan, Chitral, Kashmir and the Punjab hills obtained moderately heavy rain or snow from the 16th to the 18th during the advance of the fourth of these depressions. North-Eastern India and Burma obtained moderate to heavy daily showers from the 9th to the 15th and again from the 19th to the 24th. The rainfall of the month was in considerable to large excess in Lower Burma, Bengal and the Gangetic Plain. The rainfall of the month was slightly below the normal in Assam and Burma Inland. Rain fell daily in the Peninsula during the period from the 9th to the 24th. It was restricted to the southern half of the Peninsula from the 9th to the 15th, and occasionally extended north during the remainder of the period over the Deccan into Berar and the Central Provinces. The rainfall of the month in

the Peninsula was abnormal in its amount, and it was almost unique in character during the past 25 years. The average actual rainfall of the month in Southern India and the West Coast was nearly four times the normal and in the Deccan nearly three times the normal. The rainfall was most excessive in the southern districts of Madras including Madura, Trichinopoly, Tanjore, Kistna, Chingleput, Tinnevelly, Arcot and Malabar.

The rainfall of the month of May was generally more or less below the normal over the Peninsula and the central parts of the country, and above it over the greater part of Burma and of Northern India. The advances of the monsoon currents on the Malabar Coast were uncertain and interrupted, so that Malabar and South Madras received somewhat less rain than usual during the month. On the other hand, Burma received heavy rain both from the cyclonic storm in the first week of the month and from an advance of monsoon winds in the last week, so that it generally reported excessive rain. The excess was large in Deltaic Burma (66%) and Upper Burma (61%). Assam and Bengal received moderate to heavy rain which was, however, irregularly distributed, so that while some divisions received excessive rainfall others exhibited a marked deficiency. Over Northern and Central India the rain mainly fell during a disturbed period which lasted from about the 11th to the 23rd. During this period a well-defined trough of low pressure extended from North-Western India towards the Bay Coast. The moist south-easterly winds on the north side of this trough were accompanied with frequent thunderstorms and rain, and the total fall of rain in the North-Western Provinces was in excess of the normal. In the Central Provinces and Central India the rainfall of the month occurred during the same disturbed period, but the rainfall there was light and generally below the average. Madras also had less rain than usual, while, on the contrary, North Bombay and Baluchistan received more than the small usual amount.

The following is a summary of the chief features of the distribution of rainfall throughout the whole period of the hot weather in 1899.

(1) The rainfall was more or less in defect over the whole area including the Punjab, Rajputana, Central India, Kathiawar and Gujarat (with a few local exceptions of no importance), and was very slightly above the normal in Sind.

The following gives data in illustration :—

Area.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inch.	Inch.	Inch.	Inches.	
Punjab	−0·49	−0·25	−0·37	−1·11	−48
Rajputana	−0·19	+0·05	−0·20	−0·34	−44
Central India	−0·26	−0·06	−0·02	−0·34	−45
Sind	+0·11	−0·20	+0·19	+0·10	+17
Kathiawar	−0·05	−0·08	+0·12	−0·01	− 3
Gujarat	−0·01	−0·01	−0·03	−0·05	−16

(2) The rainfall of the period was in excess over nearly the whole of the Gangetic Plain, Bengal and Assam in April and May, and was in general but slight defect in these areas, except North Bengal, Sikkim and the Assam Valley in March. It was in excess throughout the whole period only in the Bengal Hills. The following gives data :—

Division.	Variation of rainfall from normal.				
	March	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
North-Western Provinces West Submontane.	−0·81	+0·15	+0·30	−0·36	−17
North-Western Provinces East Submontane.	−0·29	+0·81	+0·83	+1·35	+77
North-Western Provinces West.	−0·41	+0·12	+0·30	+0·01	+ 1
North-Western Provinces Central.	−0·28	+0·17	−0·02	−0·13	−18
North Oudh	−0·43	+0·33	+0·84	+0·74	+48
South Oudh	−0·30	+0·26	+0·30	+0·26	+26
North-Western Provinces East.	−0·26	+0·39	+0·24	+0·37	+41
North Bihar	−0·35	+1·41	+0·30	+1·36	+31
South Bihar	−0·44	+0·66	−0·43	−0·21	− 9
Chota Nagpur	−0·98	+1·10	−0·44	−0·32	− 8
Orissa	−1·08	+2·54	+1·27	+2·73	+40
Bengal Hills	+0·37	+0·64	+2·78	+3·79	+20
North Bengal	+0·40	−0·24	−2·62	−2·46	−16
Central Bengal	−0·89	+0·10	−0·94	−1·73	−22
Deltaic Bengal	−1·30	+1·58	+3·77	+4·05	+40
Eastern Bengal	−1·50	+2·72	+3·62	+4·84	+28
Assam Brahmaputra	+0·66	−0·13	+1·28	+1·81	+ 8
Assam Surma	−1·50	+0·72	−1·87	−2·65	− 7

(3) The precipitation was slightly less than usual in Burma and Tenasserim in March and April, but was in large excess in May, and was hence in large excess for the

period, except in Arakan, where it was normal, as shown below :—

Division.	Variation of rainfall from normal.				
	March	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inch.	Inch.	Inches.	Inches.	
Tenasserim . .	−0·24	−0·74	+7·34	+6·36	+28
Lower Burma . .	−0·09	−0·14	+9·46	+9·23	+73
Central Burma . .	−0·03	+0·02	+1·76	+1·75	+24
Upper Burma . .	−0·55	−0·77	+3·38	+2·06	+25
Arakan . . .	−0·32	−0·28	+0·35	−0·25	−1

The rainfall in May was especially heavy at the stations for which data are given below :—

Station.	Rainfall.		
	Actual, May.	Normal, May.	Variation from normal.
Bassein	31·38	8·49	+22·89
Tavoy	33·21	18·49	+14·72
Rangoon	23·19	10·79	+12·40
Magwe	11·27	5·16	+6·11
Minbu	11·88	4·25	+7·63
Kindat	17·91	5·72	+12·19
Mingin	7·92	3·92	+4·00
Bhamo	12·94	6·02	+6·92
Sandoway	32·65	13·16	+19·49
Kyaukpyu	26·09	10·64	+15·45

(4) The rainfall of the period was generally in slight to moderate excess over nearly the whole of the Peninsula, due to the abnormal rainfall of the month of April. The rainfall was generally below the small normal of the month in March, and also generally below it in May, (more especially in the Malabar district which usually receives moderately heavy rain in the last fortnight of the month) :—

Division.	Variation from normal of rainfall.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inch.	Inches.	Inches.	Inches.	
Berar . . .	−0·46	+1·03	+0·01	+0·58	+46
Central Provinces .	−0·38	+0·55	+0·01	+0·18	+13
Malabar . . .	−0·25	+10·08	−1·57	+8·26	+84
Konkan . . .	+0·03	+3·09	−0·25	+2·87	+138
Khandesh . . .	−0·03	+0·39	−0·11	+0·25	+20
Bombay Deccan . .	+0·10	+1·53	−0·27	+1·36	+49
Hyderabad . .	−0·23	+1·06	−0·02	+0·81	+42
Madras (Central) .	−0·09	+1·66	−0·43	+1·14	+46
„ East-Coast (North)	−0·44	+2·85	−0·01	+2·40	+71
„ „ (Central)	−0·20	+2·84	−1·03	+1·61	+79
„ „ (South)	−0·35	+4·37	−0·94	+3·08	+73
„ (South) . .	−0·78	+5·59	−1·33	+3·48	+68
Mysore . . .	−0·25	+2·77	−0·36	+2·16	+42

III.—South-west monsoon period.—The following gives the dates of the establishment of the monsoon (*i.e.*, of the commencement of the heavy rainfall which marked the first burst of the monsoon) in different parts of India in 1899 :—

Province or Division.	Date of commencement of the monsoon rains in 1899.
Malabar	5th June.
Konkan	11th „
Kathiawar	16th „
Central Provinces	12th „
Central India	13th „
Rajputana	20th „
Bengal	13th „
Chota Nagpur	14th „
Bihar	14th „
North-Western Provinces	14th „
Punjab	21st „

As the rains were a partial to complete failure over the greater part of the area usually dependent upon the Bombay current in July, August and September, it is not possible to give fixed dates for the retreat of the south-west monsoon current from that area.

The following gives the approximate dates of the termination of the rains in Northern India :—

Province or Division.	Date of termination of the monsoon rains in 1899.
East Punjab	14th September.
North-Western Provinces	16th „
Bihar	25th „
Bengal	25th „
Burma	9th November.

The following is a brief statement of the chief features of the rainfall in India, month by month, during the south-west monsoon period of 1899:—

June.—The chief features connected with the rainfall of the month were the slight delay in the general advance of the monsoon along the West Coast, the diminution in the amount of rain given by the Arabian sea current after the 24th, and finally the steady rainfall in Burma throughout the month and in Bengal, the Gangetic Plain and the Punjab after the middle of the month. A feeble advance of monsoon winds occurred over the south of the Arabian Sea on the 4th and 5th, and moderate or light rain fell along the West Coast and to a certain extent in the Deccan between the 6th and the 9th, when a change occurred and a heavy burst of rain was received along the West Coast. Heavy rain extended as far north as Bombay on the 12th, and rain spread inland over the Peninsula and the Central Provinces. Rain continued to fall heavily along the West Coast from the 12th to the 22nd. Heavy rain ceased on the 22nd in Malabar and over the remainder of the West Coast on the 24th, after which date light showers only were received in Western India. Over the central parts of the country, including Rajputana, Central India, Berar, the Central Provinces and the Deccan, the rainfall was intermittent. There were some showers on the 9th, from the 12th to the 15th, and again from the 18th to the 21st. On the 22nd dry westerly winds set in and, except for some showers on the 25th and 26th, rain did not recommence over this region during the remainder of the month.

In North-Eastern and Northern India rainfall conditions were much more favourable. Southerly winds from the Bay gave good general rain to Burma throughout the whole month. These winds extended into Assam and East and North Bengal on several occasions during the first ten days of the month, giving more or less heavy thunder-showers to those areas. On the 11th rain was reported from Orissa and Deltaic Bengal and on the 13th monsoon rains set in over most parts of Bengal and spread quickly north-westward up the Gangetic Plain. During the week from the 15th to the 20th rain from the Bay current was unsteady (except in Burma) and limited to Burma, North-Eastern India and the east of the North-Western Provinces, but on the 21st the current again advanced to its furthest limits in the Punjab and from the 22nd to the end of the month the whole of Burma and Northern India, including the east of Rajputana and of the Punjab, received favourable rain. A remarkable feature of the monsoon rains was that they were not introduced, as is usually the case, by a cyclonic storm.

The rainfall of the month was generally in defect over Burma, the Central Provinces and the Peninsula, the deficiency being greatest and large in Madras, moderate in the Central Provinces, and slight along the Konkan Coast. On the other hand, the rainfall of the month was generally in excess over Assam, Bengal, the North-Western Provinces, the Punjab, Central India and the east of Rajputana, the excess being large in the Gangetic Plain and in parts of the Punjab, Central India and East Rajputana.

The rainfall of the month was in moderate to considerable defect in Burma and the Bengal and Assam Hills, as shown by the following statement:—

Area.	Rainfall.			
	Average actual, June.	Average normal, June.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Tenasserim	29·35	39·94	−10·59	−27
Burma Lower	17·52	19·18	−1·66	−9
„ Central	9·14	12·13	−2·99	−25
„ Upper	6·40	10·17	−3·77	−37
Arakan	40·70	53·00	−12·30	−23
Assam Hills	30·62	32·88	−2·26	−7
Bengal „	24·86	27·22	−2·36	−9

It was in general excess over Assam, Bengal, Bihar, Chota Nagpur, the North-Western Provinces, the Punjab, Central India and East Rajputana, Gujarat, Kathiawar, Khandesh and Malabar. The following gives comparative data in illustration:—

Area.	Rainfall.			
	Average actual, June.	Average normal, June.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam	25·47	19·56	+5·91	+30
Bengal	17·06	14·72	+2·34	+16
Bihar	10·89	7·42	+3·47	+47
Chota Nagpur	11·80	8·24	+3·56	+43
North-Western Provinces and Oudh	9·91	4·32	+5·59	+129
Punjab	2·76	1·69	+1·07	+63
Central India East	13·91	6·52	+7·39	+113
Rajputana East and Central India West	7·40	3·27	+4·13	+126
Gujarat	8·77	6·26	+2·51	+40
Kathiawar	3·67	3·26	+0·41	+13
Khandesh	5·81	5·69	+0·12	+2
Malabar	38·80	36·40	+2·40	+7

It was normal or in defect over the remainder of India. The variations were small, except in the divisions for which comparative data are given below :—

Division.	Rainfall.			
	Average actual, June.	Average normal, June.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Berar	4·33	7·17	—2·84	—40
Central Provinces (West) . .	4·74	7·49	—2·75	—37
,, ,, (Central) .	5·27	8·22	—2·95	—36
,, ,, (East) . .	7·04	8·31	—1·27	—15
Madras East Coast (North) .	3·22	4·92	—1·70	—35
,, Central . . .	0·67	2·62	—1·95	—74
,, East Coast (Central) .	0·73	1·65	—0·92	—56
,, South (Central) . .	0·58	2·02	—1·44	—71

The only areas in which the rains were at this stage of the monsoon conspicuously deficient, were Berar, the Central Provinces and portions of Madras.

July.—On the 4th a depression developed over South and South-West Bengal and the head of the Bay, and on the 5th the rainfall almost ceased over the North-Western Provinces and West Bengal, though it continued over Burma and Bengal proper.

On the 6th there occurred a marked extension, the rainfall spreading north-westward through the North-Western Provinces into the Punjab. The rainfall conditions on this day were very remarkable as, while Burma, Bengal, Assam, the east of the Central Provinces and of Central India, the North-Western Provinces, the east of Rajputana and the greater part of the Punjab had general and in places fairly heavy, rain, the whole of North Bombay, the south and west of Rajputana, Berar, the west of the Central Provinces and the Peninsula were actually or practically rainless. On that day a shallow depression was developing at the head of the Bay, a depression which subsequently exercised a considerable influence on the rainfall. On the next day, the 7th, it was shown as a shallow depression of considerable extent overlying West and South-West Bengal, Baghelkhand, and the east of the North-Western Provinces. Heavy rain had fallen over a large part of Bengal.

This depression affected a large area of country, rain extending into the Central Provinces, Central India and Eastern Rajputana, while the indraught of monsoon winds from the Arabian Sea occasioned a slight increase in the rainfall over the Peninsula.

The storm advanced west-north-westward during the next 24 hours, and at 8 A.M. on the 8th lay over the region represented by the stations of Mainpuri, Lucknow, Benares, Jubbulpore and Jhansi. Rain had ceased to a considerable extent in Bengal, but had become much heavier over the North-Western and Central Provinces.

In the Punjab the rainfall had ceased, but in the Peninsula, though the amounts remained exceedingly light for the time of year, the rainfall area had extended somewhat. By the morning of the 9th the storm had become much smaller and slighter, but it had continued to move west-north-westward, and at 8 A.M. was central near Agra. Its most marked effect was to give heavy rain to Eastern Rajputana, the only heavy fall which this region received during the whole month. The following gives the heaviest downpours in this region :—

District or State.	Station.	Rainfall during 24 hours preceding 8 A.M. of 9th July.
		Inches.
Jaipur	Chatsu	5·44
Do.	Uniara . . .	5·00
Do.	Malpura . . .	3·42
Do.	Jaipur . . .	3·03
Alwar	Thana Gharzi . .	2·78
Kotah	Atroo	7·65
Do.	Indurgarh . . .	6·60
Tonk	Tonk	4·05
Bharatpur	Bhasawar . . .	3·40
Do.	Wair	2·77
Deoli	Deoli	3·13
Ajmer-Merwara	Bhinal . . .	2·82
Do. do. . . .	Masuda . . .	2·77

The rainfall at this time was very light in Bengal, but continued moderate over the North-Western and Central Provinces and light to moderate along the West Coast. In the interior and east of the Peninsula there was no rain. By the next day the storm had filled up, but its effect on the weather remained and light to moderate general rain continued to fall over the greater part of Northern and Central India and light rain over the Peninsula.

The humid monsoon currents were mainly determined to Burma and North-East India, where moderate rain was falling. Within this area of moderate rain a shallow depression was developed between the morning of the 12th and the morning of the 13th. The storm was central between Calcutta and Barisal and moderate to heavy rain was falling over Burma and Bengal.

During the period from the 14th to the 16th, the changes in North-East India were small in amount and the depression hardly changed its position though it gradually filled up. During the four days of its existence rain fell steadily over Bengal, the North-Western Provinces and the Submontane Punjab.

On the 17th two small depressions were shown, one over Central Bengal, the other over Oudh.

On the 18th the two depressions coalesced and the combined depression lay over the North-Western Provinces until the 21st. The depression occasioned the second burst of fairly general rain during the month, as during its existence general rain fell over Bengal, the North-Western and Central Provinces and Central India and extended into parts of the Punjab and the east of Rajputana.

There was little or no rain in the whole of North-Western, Central and Western India, the Deccan and Madras. At the same time there was a steady determination of humid air to Burma, North-East India and the Gangetic Plain where rain was of daily occurrence. The line of demarcation between these two sets of conditions was very sharply defined and the absence of rain and the high temperature in the Peninsula and North-West India contrasted with the daily rainfall and low temperature in the north-east and north were the most marked features of the meteorology of the month. The conditions lasted practically till the end of the month except that during the last few days, the break in the rains, dry westerly winds and excessive temperature extended northwards and eastwards invading the North-Western Provinces so that quite at the close of the month the rainfall area was restricted to Burma, Assam and Bengal.

The chief features of the rainfall of the month were:—

(1) General excess over the area which usually receives rain during this period from the Bay current.

(2) General deficiency over the area dependent on the Arabian Sea or Bombay current.

The following data illustrate the first feature:—

Division.	Rainfall.			
	Average actual, July.	Average normal, July.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Tenasserim	49·43	47·26	+2·17	+ 5
Lower Burma	22·22	23·06	−0·84	− 4
Central Burma	11·41	12·46	−1·05	− 8
Upper Burma	7·57	5·70	+1·87	+33
Arakan	60·79	48·32	+12·47	+26
Eastern Bengal	22·93	18·01	+4·92	+27
Assam Surma	25·13	19·10	+6·03	+32
Assam Brahmaputra	17·52	15·64	+1·88	+12
Deltaic Bengal	19·82	11·81	+8·01	+68
Central Bengal	19·00	12·35	+6·65	+54
North Bengal	20·98	19·68	−0·92	− 5
Chota Nagpur	15·37	14·15	+1·22	+ 9
South Bihar	22·20	12·29	+9·91	+81
North Bihar	22·27	13·06	+8·61	+63
Orissa	11·74	11·67	+0·07	+ 1
North-Western Provinces East	18·67	11·83	+6·84	+58
South Oudh	18·28	10·75	+7·53	+70
North Oudh	17·72	11·69	+6·03	+52
North-Western Provinces Central	14·18	11·79	+2·39	+20
Do. do. do. West.	7·26	8·85	−1·59	−18
Do. do. East Submontane	26·53	12·40	+14·19	+114
Do. do. West do.	14·63	14·67	−0·04	0

The rainfall was more or less seriously in defect in the remainder of India. The following gives a summary of the rainfall data for that large area:—

Area.	Rainfall.			
	Average actual, July.	Average normal, July.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Punjab	2·89	5·02	− 2·73	−49
Rajputana	3·22	6·51	− 3·29	−51
Sind	0	1·86	− 1·86	−100
Kathiawar	0·54	11·27	−10·73	−95
Gujarat	0·96	18·46	−17·50	−95
Khandesh	2·06	7·67	− 5·61	−73
Central India	7·77	13·53	− 5·76	−43
Berar	2·35	11·59	− 9·24	−80
Central Provinces	8·14	15·97	− 7·83	−49
Bombay Deccan	2·22	9·29	− 7·07	−76
Hyderabad	1·65	7·42	− 5·77	−78
Madras Deccan	0·50	3·21	− 2·71	−84
Malabar	15·74	35·63	−19·89	−56
Konkan	9·63	40·04	−30·41	−76
Madras (South)	0·64	1·03	− 0·39	−38
„ East-Coast North	4·42	6·66	− 2·24	−34
„ „ „ Central	0·84	2·45	− 1·61	−66
„ „ „ South	2·08	3·15	− 1·07	−34

The deficiency was hence greatest in the north-western and central districts of the area dependent on the Bombay monsoon current, including Kathiawar, Gujarat, Khandesh, Berar, Rajputana, the Deccan and Konkan.

August.—A small depression was lying over the North-Western Provinces at the commencement of the month and was occasioning moderate rain over North-East India.

The depression filled up during the 3rd. It was followed by a fair flow of air from the Bay into North-East India, which consequently received steady rain. The above conditions lasted until the 6th, during which period there was an almost complete break in the rains in all parts of the country, except the north-east.

On the 7th a depression began to form over the east of the Bay. It was shown close to Diamond Island on the morning of the 8th, on which day it commenced to move north-westwards across the Bay. It reached the Orissa Coast near Puri about noon of the 10th, passed into the Central Provinces on the 11th, and the North-Western Provinces on the 12th, and then filled up. The storm completely broke down the excess of pressure over the Indian region and produced a large area of relatively low readings over Northern India. These changes brought about a marked change in the winds over the Peninsula, which shifted from north-west to south-west. Rain commenced along the West Coast on the 7th, extended over a large part of the Peninsula and to parts of the Central Provinces on the 9th, and was fairly general over the Peninsula, the central parts of the country, Bihar, Bengal, Assam and Burma on the 11th and 12th.

With a few local exceptions the rainfall during the existence of the storm was not very heavy.

On the 14th the general conditions were less abnormal than for sometime previously, and fairly general light to moderate rain was falling, except over North Bombay, Rajputana, the south and west of the Punjab and the centre and east of the Peninsula. These moderately favourable conditions did not, however, last long. The period from the 14th to 20th was marked by steadily diminishing rainfall, and at the close of the period, there was practically no rain except in North-East India and a few insignificant showers along the West Coast. On the 15th heavy rain was reported over Bihar, and within this area of heavy rain a small depression was formed. This depression drifted into Bengal and remained stationary over Central Bengal till the 19th, when it filled up. It gave heavy rain to Bengal and Bihar.

From the 21st to the 25th the general conditions were practically unchanged. The whole of North-West India was dry and hot, while showers prevailed on the coasts of the Peninsula and at some central stations and general rain over Burma and North-East India.

On the 26th a large shallow low pressure area covered the head of the Bay, South-West and West Bengal and the east of the North-Western Provinces. During the following 24 hours the depression slightly intensified and a slight centre was shown over the north-west of the Bay. The centre crossed the coast near Puri during the 28th advancing in a north-westerly direction, and lay half-way between Sutna and Hazaribagh at 8 A.M. on the 29th. During the next 48 hours the storm advanced eastward and was filling up over Central Bengal at 8 A.M. on the 31st. The storm occasioned a marked increase of rain over the Central Provinces, Central India, the North-Western Provinces and Bihar, where rain was urgently needed.

No rain fell during this period over North-West India and the greater part of the Peninsula, and rain ceased suddenly over the central parts of the country on the 31st.

The chief features of the distribution of the rainfall of the month were similar to those of the preceding month with the exception that the area of increased or excessive rainfall in North-Eastern India was smaller than in July and included the Assam Valley and Hills, the greater part of Bengal, Tenasserim, Upper Burma, North Bihar and the eastern submontane districts of the North-Western Provinces. The following gives data for this area of normal or increased rainfall:—

Divisions.	Rainfall.			
	Average actual. August.	Average normal, August.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches	Inches.	
Tenasserim	43·43	37·81	+5·62	+15
Lower Burma	18·86	20·75	−1·89	− 9
Central „	9·88	13·53	−3·65	−27
Upper „	7·57	6·61	+0·96	+15
Arakan	32·13	32·45	−0·32	− 1
Assam Surma	17·20	20·97	−3·77	−18
„ Brahmaputra . . .	16·51	14·27	+2·24	+16
„ Hills	24·35	22·95	+1·40	+6
Eastern Bengal	19·46	16·27	+3·19	+20
Deltaic „	10·99	12·19	−1·20	−10
Central „	11·25	11·42	−0·17	− 1
North „	22·11	17·07	+5·04	+30
North Bihar	19·83	12·31	+7·52	+61
North-Western Provinces (Submontane East.)	14·94	10·78	+4·16	+39

The area of deficient rainfall included nearly five-sixth of India. The deficiency was, as in July, most marked in the north-western and central districts of the area dependent on the Bombay current, including the South Punjab, Rajputana, Central India, Gujarat, Kathiawar, Khandesh,

Berar, the Bombay Deccan and the western division of the Central Provinces.

The following gives data for these areas :—

Area.	Rainfall.			
	Average actual, August 1899.	Average normal, August.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North-Western Provinces and Oudh (excluding east submontane districts)	6·32	10·51	− 4·19	−40
Punjab	1·53	5·02	− 3·49	−70
Sind	0·01	1·94	− 1·93	−99
Rajputana	0·15	6·76	− 6·61	−98
Central India	2·91	12·28	− 9·37	−76
Kathiawar	0·34	6·28	− 5·94	−95
Gujarat	0·96	9·28	− 8·32	−90
Khandesh	1·82	5·99	− 4·17	−70
Malabar	10·54	20·95	−10·41	−50
Konkan	10·20	23·96	−13·76	−57
Bombay Deccan	1·55	6·14	− 4·59	−75
Berar	2·44	8·89	− 6·45	−73
Central Provinces	8·73	11·76	− 3·03	−26
Hyderabad	4·51	7·16	− 2·65	−37
Madras East Coast (North)	6·84	7·01	− 0·17	− 2
„ „ „ (Central)	2·51	3·06	− 0·55	−18
„ (Central)	2·54	4·32	− 1·78	−41
„ (South)	0·61	1·90	− 1·29	−68

September.—At the commencement of the month, over the east of the Bay ordinary monsoon winds from south and south-west were blowing steadily and a fair amount of rain was falling over Burma, Assam and Bengal.

On the 4th pressure became unusually low over the south-west of the Bay, the wind shifted more to the northward over the interior of the Peninsula, and rain set in over Madras and the Deccan.

Rain fell off in the Peninsula on the 7th, but recommenced on the 8th, on which day pressure was slightly to considerably below the normal over the south of the Peninsula and the south of the Bay. On the next day a depression was apparently developing over the Bay. Accompanying the development of this depression, rain ceased in Bengal, though it continued to fall over Burma and the Peninsula.

The depression over the Bay intensified slightly on the 9th, and was marching towards the Circars Coast on a west-by-north course on the morning of the 10th, on which day general light to moderate rain was falling over the west and centre of the Peninsula. During the following day (the 11th) the centre of the storm was crossing the coast between Gopalpur and Vizagapatam, moderate rain had commenced over the east of the Peninsula and rain had again extended into Bengal.

The storm reached the Central Provinces on the 13th, and the North-Western Provinces on the 14th, then turned to the eastward and travelled through Bihar, where it disappeared on the 17th.

During the 15th and 16th when the storm was travelling eastward the rainfall almost ceased over the Peninsula, but on the 17th it recommenced and, as in the preceding instance, was followed by the appearance of a depression over the Bay. The storm thus initiated concentrated during the 19th and 20th and began to move northward to the head of the Bay on the 21st. It was approaching the head of the Bay on the morning of the 22nd and was crossing the Sunderbans at 8 A.M. on the 23rd. The storm continued to advance northward and broke up in the Sikkim Himalayas on the morning of the 25th.

It occasioned heavy rain over Bengal and Bihar where the following amounts exceeding 10 inches in 24 hours were registered :—

District.	Station.	Date.	Rainfall during 24 hours preceding 8 A.M. of date.
			Inches.
Sonthal Parganas	Mohagama	24th Sept.	15·61
	Barkope	„ „	12·35
Bhagalpur	Banka	„ „	11·81
Sonthal Parganas	Godda	„ „	10·12
Darjeeling	Darjeeling	25th „	19·40
	Kurseong	„ „	15·18
	Mungpoo	„ „	12·96
Purnea	Forbesganj	„ „	10·60

The rainfall of the month was in excess in Upper and Lower Burma, Assam and the greater part of Bengal and Bihar, but the excess was small in actual amount except in the area or districts affected by the downpours of the

storm of the 24th and 25th. The following gives comparative data for this area :—

Division.	Rainfall.			
	Average actual, September 1899.	Average normal, September.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Lower Burma . .	14·21	13·52	+0·69	+ 5
Upper Burma . .	8·89	7·20	+1·69	+23
Assam Surma . .	17·49	16·49	+1·00	+ 6
Assam Brahmaputra .	12·38	11·13	+1·25	+11
Eastern Bengal . .	12·74	11·02	+1·72	+16
Deltaic Bengal . .	8·41	8·50	—0·09	— 1
Central Bengal . .	9·36	9·24	+0·12	+ 1
North Bengal. . .	19·66	15·38	+4·28	+28
North Bihar . . .	10·76	9·27	+1·49	+16
South Bihar . . .	5·37	6·96	—1·59	—23

Data are given below for the districts which received heavy downpours from the storms of the month :—

District.	Station.	Rainfall.			
		Actual, September 1899.	Normal, September.	Variation from normal.	Percentage variation from normal.
		Inches.	Inches.	Inches.	
Sonthal Parganas.	Godda . .	18·23	8·87	+ 9·36	+106
Bhagalpur.	Madhipura .	17·38	10·22	+ 7·16	+ 70
	Supaul . .	18·30	9·59	+ 8·71	+ 91
	Protapganj .	16·45	11·04	+ 5·41	+ 49
	Bhagalpur .	17·02	7·37	+ 9·65	+131
	Banka . .	17·09	8·36	+ 8·73	+104
Darjeeling .	Darjeeling .	36·42	17·31	+19·11	+110
	Kalimpong .	26·40	11·94	+14·46	+121

The heavy downpours appear to have been very local and in one case, at least, are known to have occurred only from its effects, *viz.*, the subsequent flood. An excessive downpour occurred in a part of the Sonthal Parganas which gave rise to a tremendous flood that completely swept away the crops of a part of the Bhagalpur district and caused much loss of cattle. The rainfall of the month was also in excess over the greater part of the Peninsula south of Lat. 18°N, due to the favourable showers in the first fortnight of the month. The following gives data for the areas of increased rainfall in the Peninsula :—

Division.	Rainfall.			
	Average actual, September 1899.	Average normal, September.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Bombay Deccan . .	6·87	5·53	+1·34	+24
Madras „ . .	7·74	4·85	+2·89	+60
Hyderabad . . .	4·46	6·78	—2·32	—34
Mysore	8·59	4·82	+3·77	+78
Madras East Coast, Central.	3·70	3·61	+0·09	+ 2
Madras East Coast, South.	5·39	4·50	+0·89	+20

Over the remainder of India the rainfall was more or less largely in defect and the drought over the greater part of India was as severe as during the two preceding months :—

Area.	Rainfall.			
	Average actual, September 1899.	Average normal, September.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Punjab	0·31	2·60	—2·29	— 88
North-Western Provinces and Oudh.	2·02	6·57	—4·55	— 69
Rajputana . . .	0·34	2·69	—2·35	— 87
Central India. . .	1·79	7·07	—5·28	— 75
Khandesh . . .	2·15	6·97	—4·82	— 69
Gujarat. . . .	1·13	8·03	—6·90	— 86
Kathiawar . . .	0·84	4·70	—3·86	— 82
Sind	0	0·48	—0·48	—100
Berar	1·61	7·34	—5·73	— 78
Central Provinces . .	2·27	8·11	—5·84	— 72
Orissa	5·38	12·70	—7·32	— 58
Chota Nagpur . .	3·65	8·21	—4·56	— 56
Madras East Coast (North)	5·73	6·70	—0·97	— 14
Madras (South) . .	1·55	2·11	—0·56	— 27
Malabar . . .	7·20	10·44	—3·24	— 31
Konkan . . .	5·57	14·96	—9·39	— 63

The following gives the chief features of the distribution of rainfall for the whole monsoon period, June to September and also June to October in India.

(1) The rainfall of the period June to October was in

slight to moderate defect in Burma and normal in Tenasserim as shown below :—

Division.	Rainfall of period. June to September. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.	June to October. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Tenasserim .	155·71	148·39	+ 6·72	+ 4	160·68	159·72	+ 0·96	+ 1
Lower Burma .	61·75	76·51	—14·76	—19	65·37	85·35	—19·98	—23
Central Burma .	38·44	46·87	— 8·43	—18	40·54	53·00	—12·46	—24
Upper Burma .	31·49	25·58	+ 5·91	+ 23	37·12	43·63	— 6·51	—15
Arakan . .	123·90	154·21	—30·31	—19	135·21	163·64	—28·43	—17

(2) It was on the mean of the whole period, June to October, in slight to considerable excess in Assam, Bengal, Bihar and the eastern districts of the North-Western Provinces :—

Area.	Rainfall of period. June to September. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.	June to October. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Assam . .	78·59	68·36	+10·23	+ 15	85·03	73·23	+11·80	+16
Bengal . .	66·24	55·45	+10·79	+19	71·63	60·05	+11·58	+19
Bihar . .	56·97	40·57	+16·40	+40	57·89	43·27	+14·62	+34
North-Western Provinces (East).	43·17	33·84	+ 9·33	+28	43·47	36·02	+ 7·45	+21
North-Western Provinces, East Submontane.	54·42	36·63	+17·79	+49	55·43	39·50	+15·93	+40

(3) It was in slight to moderate defect over nearly the whole of Chota Nagpur and Orissa. The following gives comparative data :—

Area.	Rainfall of period. June to September. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.	June to October. Average actual 1899.	Average normal.	Variation from normal.	Percentage Variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Chota Nagpur .	39·49	44·46	—4·97	—11	40·32	47·36	—7·04	—15
Orissa . .	35·58	45·46	—9·88	—22	44·42	51·31	—6·89	—13

(4) It was normal in the central districts of the North-Western Provinces and in moderate defect in the western and hill districts of the North-Western Provinces, as shown below :—

Division.	Rainfall of period. June to September. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.	June to October. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
North-Western Provinces (Central).	32·57	31·37	+ 1·20	+ 4	32·57	32·41	+ 0·16	0
North-Western Provinces West Submontane.	29·26	40·24	—10·98	—27	29·48	41·07	—11·59	—28
North-Western Provinces, Hills.	43·79	49·16	— 5·37	—11	43·82	50·67	— 6·85	—14
North-Western Provinces, West.	17·73	23·52	— 5·79	—25	17·74	24·06	— 6·32	—26

(5) The rainfall of the period was, relatively to the normal, in very large defect in Rajputana, the South Punjab, Central Punjab, South-East Punjab, Sind, Kathiawar, Gujarat and Central India. The following gives comparative data :—

Division.	Rainfall of period. June to September. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.	June to October. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
South-East Punjab.	9·86	20·40	—10·54	—52	9·91	20·76	—10·85	—52
South Punjab .	5·27	13·00	— 7·73	—59	5·33	13·21	— 7·88	—60
Central Punjab.	6·26	13·65	— 7·39	—54	6·30	14·00	— 7·70	—55
Sind . .	0·04	4·48	— 4·44	—99	0·04	4·51	— 4·47	—99
Kathiawar .	5·39	25·51	—20·12	—79	5·40	26·20	—20·80	—79
Gujarat . .	11·82	42·03	—30·21	—72	11·85	43·39	—31·54	—73
Central India .	26·38	39·40	—13·02	—33	26·38	40·95	—14·57	—36
Rajputana East, Central India West.	14·08	25·85	—11·77	—46	14·09	26·19	—12·10	—46
West Rajputana	2·15	11·08	— 8·93	—81	2·15	11·15	— 9·00	—81

The deficiency was largest and most pronounced in West Rajputana, Sind and Kathiawar, in which it exceeded 78 per cent.

(6) It was below the normal in Khandesh, Berar, the Central Provinces, the Bombay and Madras Deccan, East

Coast, North, South and South Central Madras, the Konkan, Mysore and Hyderabad. The following gives data in illustration :—

Division.	Rainfall of period. June to September. Average actual 1899.	June to September. Average normal.	June to September. Variation from normal.	June to September. Percentage variation from normal.	June to October. Average actual 1899.	June to October. Average normal.	June to October. Variation from normal.	June to October. Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches	Inches.	
Berar	10 73	34·99	—24·26	—69	10·75	37·48	—26·73	—71
Central Provinces (West).	16·50	39·97	—23·47	—59	16·52	42·05	—25·53	—61
Central Provinces (Central)	24·49	47·05	—22·56	—48	24·49	48·90	—24·41	—50
Central Provinces (East).	33·51	44·49	—10·98	—25	33·55	46·55	—13·00	—28
Konkan	51·44	106·10	—54·66	—52	53·09	111·62	—58·53	—52
Bombay Deccan	15·76	26·76	—11·00	—41	16·74	31·76	—15·02	—47
Khandesh	11·84	26·32	—14·48	—51	11·94	29·93	—17·99	—60
Hyderabad (North).	14·40	30·71	—16·31	—53	14·44	33·46	—19·02	—57
Hyderabad (South).	13·82	22·45	— 8·63	—38	13·98	25·52	—11·54	—45
Madras East Coast (North).	20·21	25·29	— 5·08	—20	25·14	32·39	— 7·25	—22
Madras Central	11·77	15·53	— 3·76	—24	13·94	21·12	— 7·18	—34
Madras South	3·16	6·10	— 2·94	—48	11·69	12·13	— 0·44	— 4
Madras South (Central).	10·08	12·05	— 1·97	—16	14·54	17·93	—3·39	—19
Mysore	17·52	20·36	— 2·84	—14	20·87	25·88	— 5·01	—19

The deficiency was most marked in Berar, in which it averaged 71 per cent, Khandesh (60 per cent.) and the western division of the Central Provinces (61 per cent.)

(7) It was in slight excess over nearly the whole of the centre and south of the Peninsula including East Coast South and Central divisions of Madras as shown below chiefly due to heavy rain in:—

Division.	Rainfall of period. June to September. Average actual, 1899.	June to September. Average normal.	June to September. Variation from normal.	June to September. Percentage variation from normal.	June to October. Average actual. 1899.	June to October. Average normal.	June to October. Variation from normal.	June to October. Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Madras East Coast (Central.)	7·78	10·77	—2·99	—28	20·86	20·53	+0·33	+ 2
Madras East Coast (South)	10·53	14·94	—4·41	—30	25·76	23·73	+2·03	+ 9

(8) The rainfall of the period, June to October, was below the normal in 39 divisions. The deficiency was small in amount in thirteen of these divisions, and ranged between 25 and 50 per cent in the eleven divisions for which comparative data are given below :—

Division.	Rainfall of period, June to October. Average actual, 1899.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North-Western Provinces West	17·74	24·06	— 6·32	—26
North-Western Provinces West Submontane.	29·48	41·07	—11·59	—28
Punjab Hills	30·04	45·12	—15·08	—33
Malabar	82·78	113·58	—30·80	—27
Bombay Deccan	16·74	31·76	—15·02	—47
Central Provinces Central	24·49	48·90	—24·41	—50
„ „ East	33·55	46·55	—13·00	—28
Central India East	26·38	40·95	—14·57	—36
Rajputana East and Central India West	14·09	26·19	—12·10	—46
Hyderabad South	13·98	25·52	—11·54	—45
Madras Central	13·94	21·12	— 7·18	—34

(9) It was more than 50 per cent. in defect in the 15 divisions for which comparative data are given below :—

Division.	Rainfall of period, June to October. Average actual, 1899.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
South-East Punjab	9·91	20·76	—10·85	—52
South „	5·33	13·21	— 7·88	—60
Central „	6·30	14·00	— 7·70	—55
Punjab Submontane	12·19	24·96	—12·77	—51
West Punjab	2·48	6·25	— 3·77	—60
Konkan	53·09	111·62	—58 53	—52
Hyderabad, North	14·44	33·46	—19·02	—57
Khandesh	11·94	29·93	—17·99	—60
Berar	10·75	37·48	—26·73	—71
Central Provinces, West	16·52	42·05	—25·53	—61
Gujarat	11·85	43·39	—31·54	—73
Kathiawar	5·40	26·20	—20·80	—79
Sind	0·04	4·51	— 4·47	—99
Baluchistan Hills	0·45	2·48	— 2·03	—82
West Rajputana	2·15	11·15	— 9·00	—81

IV. The retreating south-west monsoon period.—This season was remarkably dry over by far the greater part of India.

The distribution of rainfall in October was exceptional, due chiefly to the abnormal tracks of the storms of the period. Two storms formed in the Bay during the month The first storm was generated in the south-west or centre

of the Bay, and advanced by a curved path first northwards to Ganjam and thence north-north-eastwards through Orissa and Bengal where it broke up in the eastern districts on the 17th. It gave excessive rain in the North Madras coast districts and Orissa and heavy rain in Bengal.

The second disturbance was of an unusual character. It accompanied the formation and existence of a diffused and extensive barometric depression over the south and centre of the Bay which however never developed into a cyclonic storm or circulation with a well defined centre. Heavy rain fell in the Madras coast districts from the 19th to the 29th during the existence of the depression and moderate rain in Bengal and Assam.

Moderate rain also fell in South Madras and Burma during the first week of the month previous to the formation of the first storm. A feeble disturbance gave light to moderate rain in the North-West Himalayas on the 20th and 21st.

The rainfall of the month was in moderate to considerable excess of the normal in the south and south-east of the Peninsula and was normal in Malabar. It was also in slight to large excess in Orissa, Assam and East Bengal, and was normal in Upper Burma and Deltaic Bengal. In all other parts of the Indian region the rainfall was more or less deficient and was actually or practically *nil* in North-Western India. The deficiency was largest in actual amount in Burma.

November was drier than usual over the whole country. Only one storm formed in the Bay during the month. It was apparently a large diffused disturbance during the greater part of its existenee. A small central disturbance of considerable intensity apparently formed within this on the 11th and passed over Negapatam during the next 24 hours. This was followed by a moderate burst of rain in South Madras.

Four cold weather disturbances affected the weather slightly in Upper India. They gave cloud in the plains and light rain or snow, chiefly in Kashmir and Chitral.

Upper Burma and Arakan had unusually heavy and favourable rain chiefly due to local conditions. Little or no rain fell over the whole of Northern and Central India and the Peninsula to the north of Lat. 16° N. To the south of Lat. 16° N., the rainfall was light to moderate and much below the normal of the month. Malabar, South Central and Central Madras and Mysore received amounts averaging between ½ inch and ¼ inch, and Travancore, the central and south divisions of the Madras coast districts and South Madras moderate rain ranging from 1 to 4½ inches in amount.

Over the large area including Bengal, Orissa, the Gangetic Plain, the Punjab, Rajputana, Central India, the Deccan and the West Coast the rainfall was less than 10 per cent. of the normal and was *nil* over by far the greater part of that area.

No rain fell over by far the greater part of India in December.

Three cold weather disturbances, feeble in character, gave rain or snow in Rajputana, Kashmir, Chitral and Baluchistan.

The first disturbance gave local showers in West and Central Rajputana from the 12th to the 14th. The second and third disturbances occurred during the fourth week of the month and gave rain and snow in Baluchistan and snow in the higher and interior ranges of Kashmir. Some light showers of little importance were received, chiefly between the 4th and 8th, in Upper Burma and Assam.

A diffused and irregular disturbance in the extreme south of the Bay gave moderate to heavy rain in the South Coromandel coast districts including South Arcot and Tanjore, and also in East Ceylon.

The rainfall in the south occurred generally before an that in the north-west generally after the 15th of the month. The total rainfall of the month was in slight excess in Assam and in North Bengal and the Bengal hills, but was in defect in all the remaining provinces. The largest actual deficiency was reported from the south and south-east of the Peninsula, where the rainfall due to the retreating south-west moonsoon ended earlier and was throughout lighter than usual. In this respect the rainfall of December 1899 was in marked contrast to that of December 1898, when Southern India received abundant rainfall.

The following are the chief features of the rainfall of the period in India :—

(1) The rainfall of the period was in marked defect in the Upper India Himalayas. The most noteworthy feature of the period was the abnormal dryness and absence of rain in the Western Himalayas during the months of November and December. The following gives data for eleven representative stations :—

Station.	Variation of rainfall from normal.				
	October 1899.	November 1899.	December 1899.	Total of period October to December.	Percentage variation from normal of period.
	Inches.	Inches.	Inches.	Inches.	
Quetta	+0·02	+0·27	−0·11	+0·18	+ 17
Kalat	−0·45	+0·45	0	+0·40	+ 39
Chaman	−0·32	−0·32	−0·69	−1·10	− 58
Peshin	−0·30	−0·30	−1·09	−1·41	− 65
Srinagar	−0·91	+0·91	−0·39	+0·36	+ 21
Leh	−0·03	−0·03	−0·13	−0·40	− 80
Kailang	−0·05	+0·05	−0·79	−0·87	− 40
Kilba	−1·97	−1·97	−1·24	−3·64	− 83
Simla	−0·54	−0·54	−0·74	−2·29	− 92
Chakrata	−0·59	−0·59	−0·66	−1·82	− 87
Ranikhet	−0·33	−0·33	−0·53	−2·34	−100

(2) The rainfall of the whole period was very small in amount and in marked defect over the large area including North-Western and Central India and the Deccan. The following gives comparative data for this area of large deficiency :—

Area.	Average actual rainfall in October 1899.	Average actual rainfall in November 1899.	Average actual rainfall in December 1899.	Average actual rainfall during period October to December 1899.	Average normal rainfall during period October to December.	Percentage variation from normal.
	Inch.	Inch.	Inch.	Inch.	Inches.	
Bihar	0·93	0·	0	0·93	3·01	−69
Chota Nagpur . .	0·83	0	0	0·83	3·61	−77
North-Western Provinces and Oudh.	0·26	0	0	0·26	1·93	−87
Punjab . . .	0·10	0·02	0·02	0·14	0·89	−84
Bombay . . .	0·46	0·01	0·01	0·48	3·59	−87
Rajputana . . .	0·01	0	0·05	0·06	0·58	−90
Central India . .	0	0	0·04	0·04	2·27	−98
Berar	0·02	0	0	0·02	3·67	−99
Central Provinces . .	0·02	0	0	0·02	2·76	−99
Hyderabad . . .	0·10	0	0	0·10	4·63	−98

(3) The precipitation varied somewhat irregularly from the normal in Bengal, Orissa and Assam. It was in large excess in East Bengal, the Assam Valley and Hills, chiefly due to heavy local precipitation accompanying the storm of the 12th to the 16th October. The following gives data :—

Area.	Average actual rainfall in October 1899.	Average actual rainfall in November 1899.	Average actual rainfall in December 1899.	Average actual rainfall during period October to December 1899.	Average normal rainfall during period October to December.	Percentage variation from normal.
	Inches.	Inch.	Inch.	Inches	Inches.	
Assam (Surma) . .	6·82	0·04	0·52	7·38	7·02	+ 5
Assam (Brahmaputra) .	6·07	0·51	0·72	7·30	4·89	+49
Assam (Hills) . .	11·31	0·81	0·56	12·68	9·35	+36
Eastern Bengal . .	11·95	0·24	0·08	12·27	7·29	+68
Deltaic Bengal . .	4·41	0	0	4·41	5·60	−21
Central Bengal . .	2·67	0	0	2·67	4·23	−37
North Bengal . .	2·52	0·01	0·13	2·66	4·85	−45
Bengal Hills . .	5·37	0·37	0·52	6·26	7·85	−20
Orissa	8·84	0	0·03	8·87	8·26	+ 7

(4) The precipitation in Burma was unusual in its distribution. Upper Burma obtained abundant and favourable rain in October and November. The rainfall in these months was, on the other hand, in moderate to considerable defect in Lower Burma. Little or no rain fell in December. On the mean of the period the rainfall was practically normal in amount in Arakan, in considerable to large defect in Tenasserim, Lower and Central Burma and in considerable excess in Upper Burma. The following gives comparative data :—

Area.	Average actual rainfall in October 1899.	Average actual rainfall in November 1899.	Average actual rainfall in December 1899.	Average actual rainfall of period October to December 1899.	Average normal rainfall of period October to December.	Percentage variation from normal.
	Inches.	Inches.	Inch.	Inches.	Inches.	
Tenasserim . . .	4·97	3·23	0·04	8·24	12·13	−32
Lower Burma, Deltaic .	3·62	1·89	0	5·51	12·59	−56
Upper „ .	5·63	2·87	0·16	8·66	5·76	+50
Central „ .	2·10	0·91	0	3·01	8·10	−63
Arakan . . .	11·31	2·28	0	13·59	13·34	+ 2

(5) The rainfall in Southern India occurred chiefly in the coast districts. There was a moderate to large excess in the coast districts south of Nellore in October. The precipitation was small in amount in November and December and was hence in general defect in that area, the deficiency in actual amount increasing westwards from the narrow coast belt. The following gives comparative data for the Madras Presidency and Mysore :—

Division.	Variation of rainfall during October 1899.	Variation of rainfall during November 1899.	Variation of rainfall during December 1899.	Variation of rainfall during Period.
	Inches.	Inches.	Inches.	Inches.
Madras (South) . .	+2·50	−3·35	−2·93	−3·78
Do. East-Coast (South.)	+6·44	−6·13	−3·54	−3·23
Do. East-Coast (Central.)	+3·32	−8·22	−2·67	−7·57
Do. (Central) . .	−3·42	−2·12	−0·45	−5·99
Do. (South Central) .	−1·42	−3·52	−0·65	−5·59
Do. East-Coast (North.)	−2·17	−3·24	−0·97	−6·38
Mysore . . .	−2·17	−2·42	−0·52	−5·11
Malabar . . .	+0·34	−3·83	−0·72	−4·21

Year.—The rainfall of the year for the whole of India as determined by the method employed by Mr. Blanford (and which gives the normal annual rainfall as 41·09 inches) averaged 11·14 inches below the normal.

The average rainfall of the Indian area was more or less considerably below the normal throughout the year except during the hot weather season.

The following gives comparative data for the whole of India (excluding Burma) based on the arithmetical means of the actuals and normals for the 46 rainfall divisions (irrespective of extent of area) :—

Period.	Rainfall.			
	Average actual of year 1899.	Average normal of year.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Cold weather	0·71	0·98	—0·27	—28
Hot weather	5·28	4·57	0·71	+16
South-West Monsoon	31·07	37·67	—6·60	—18
Retreating South-West Monsoon.	0·29	1·86	—1·57	—84
Whole year	37·35	45·08	—7·73	—17

The year 1899 was in fact the driest on record since the establishment of the present meteorological system. An examination of all the available records shows that it was the driest during the past 200 years at least.

The rainfall of the year was more or less in excess over nearly the whole of the area which usually derives its rainfall solely from the Bay current, including Upper Burma, Assam, Bengal, Bihar and the eastern half of the North-Western Provinces. The following gives data for this area of increased rainfall :—

Division.	Rainfall.			
	Average actual of year 1899.	Average normal of year.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Upper Burma	50·48	37·70	+12·78	+34
Eastern Bengal	109·60	88·29	+21·31	+24
Assam Surma	136·36	126·61	+ 9·75	+ 8
Assam Hills	149·81	138·13	+11·68	+ 8
Assam Brahmaputra	101·75	87·91	+13·84	+16
Deltaic Bengal	73·22	60·55	+12·67	+21
Central Bengal	62·70	56·28	+ 6·42	+11
North Bengal	104·03	94·70	+ 9·33	+10
Bengal Hills	139·47	138·25	+ 1·22	+ 1
Bihar South	55·95	43·89	+12·06	+27
Bihar North	71·08	52·47	+18·61	+35
North-Western Provinces, East.	45·97	38·29	+ 7·68	+20
Oudh South	39·47	36·11	+ 3·36	+ 9
Oudh North	43·08	38·95	+ 4·13	+11
North-Western Provinces East Sub-montane.	59·64	42·53	+17·11	+40

The total rainfall of the year was in defect over the remainder of the country. It was less than 25 per cent. in defect in the following ten rainfall divisions :—

Division.	Rainfall.			
	Average actual of year 1899.	Average normal of year.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Orissa	54·41	61·67	— 7·26	—12
Chota Nagpur	45·14	53·64	— 8·50	—16
North-Western Provinces, Central	33·53	34·31	— 0·78	— 2
,, ,, Hills	51·09	61·19	—10·10	—17
Malabar	101·53	128·62	—27·09	—21
Madras, South-Central	23·38	29·45	— 6·07	—21
Mysore	28·45	34·37	— 5·92	—17
Madras, East Coast, North	31·03	40·44	— 9·41	—23
,, ,, ,, South	37·53	42·50	— 4·97	—12
,, South	25·85	28·58	— 2·73	—10

It was between 25 and 50 per cent. in defect in 14 divisions, as shown below :—

Division.	Rainfall.			
	Average actual of year 1899.	Average normal of year.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North-Western Provinces, West	18·98	26·33	— 7·35	—28
North-Western Provinces, West Submontane.	32·41	46·28	—13·87	—30
Punjab Hills	37·80	61·59	—23·79	—39
North Punjab	15·58	21·15	— 5·57	—26
Konkan	58·09	115·06	—56·97	—50
Bombay Deccan	20·88	36·49	—15·61	—43
Central Provinces, Central	25·93	51·58	—25·65	—50
,, ,, East	36·31	50·03	—13·72	—27
Gujarat	12·14	44·03	—13·89	—32
Central India, East	27·03	43·41	—16·38	—38
Rajputana East and Central India West.	14·74	28·18	—13·44	—48
Hyderabad, South	16·17	29·46	—13·29	—45
Madras, Central	17·89	26·58	— 8·69	—33
Madras, East Coast, Central	25·59	35·19	9·60	—27

It was more than 50 per cent. in the following divisions

(thirteen in number) which formed the area of greatest drought during the year and over which serious famine consequently set in :—

Division.	Rainfall. Average actual of year 1899.	Average normal of year.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
South-East Punjab	10·52	23·54	—13·02	—55
South „	5·76	16·02	—10·26	—64
Central „	7·67	18 88	—11·21	—59
Punjab Submontane	14·42	31·30	—16·88	—54
West Punjab	3·78	8·90	— 5·12	—58
Hyderabad, North	17·70	37·19	—19·49	—52
Khandesh	13·42	32·77	—19·35	—59
Berar	12·81	40·56	—27·75	—68
Central Provinces, West	17·99	44·62	—26 63	—60
Kathiawar	5 79	27·07	—21·28	—79
Sind	0·77	6·00	— 5·23	—87
Baluchistan Hills	4·58	9·44	— 4·86	—51
West Rajputana	2·47	12·55	—10·08	—80

The rainfall of the year was less than one inch in amount at a considerable number of the rainguage stations in West Rajputana and Sind and at a few stations in the Punjab, Cutch and Baluchistan. The following gives data for these stations :—

Province.	Station.	Total annual rainfall.
		Inch.
Punjab	Montgomery	0·99
	Tarkhani	0·74
	Khewra	0·90
	Dehra Ghazi Khan	0·46
	Jampur	0·78
	Rajanpur	0·21
	Alipur	0·14
	Sinanwan	0·24
	Lodhran	0·50
	Babar Kach	0·78
	Nari	0·60
	Mittri	0·06
Baluchistan	Lindsay	0·10
	Bellput	0
	Temple Dera	0·55
	Jhatput	0·25
Rajputana	Jaisalmer	0·26
	Davikot	0·70
	Balmer	0·39
	Pachpadra	0·95
	Jodhpur	0·96
	Jodhpur (Sursagar)	0·45
	Pali	0·72
	Sankra	0·14
	Sheo	0·14
	Jalor	0·50
	Chotan	0·81
	Ramgarh	0
	Khabha	0
Cutch	Bhuj	0·98
	Mandvi	0·84
	Rahpur	0·06
	Nalia	0
Sind	Karachi	0·59
	Tatta	0·65
	Jerruck	0·46
	Shahbandar	0·17
	Sehwan	0·46
	Hyderabad	0·40
	Nanshahro	0·73
	Mehar	0·91
	Rohri	0·17
	Umarkot	0·06
	Nagar Parkar	0·66

The rainfall was excessive in the Assam Hills, Arakan and Tenasserim. The following gives the most noteworthy examples in these areas and in Bengal and Bombay.

Province.	Station.	Rainfall. Actual of year 1899.
		Inches
Burma	Tavoy	221·26
	Thayetchaung	220·84
	Launglon	232·06
	Yebyu	258·43
	Kyaikto	203·84
	Sandoway	234·83
	Myebon	225·93
	Akyab	227·66
	Maungdaw	203·10

Province.	Station.	Rainfall. Actual of year 1899.	Rainfall. Normal of year.
		Inches.	Inches.
Bengal	Buxa	195·52	212·86
	Kurseong	192·85	
	Cox's Bazar	193·75	140·78
Bombay	Malcolmpeth	139·60	
Assam	Cherra Poonjee	641·91	425·77
	Litlyngkot	208·88	
	Jowai	188·97	269·37
	Pathalipan	196·12	
	Jotinga Valley	203·80	
	Nematha	218·06	186·00
	Lalakhal	295·66	
	Sunamganj	274·82	210·25
	Kachugaon	201·89	

The following gives the heaviest rainfalls in 24 hours exceeding 15 inches recorded during the year 1899:—

Province.	District.	Station.	Date and month.	Rainfall during 24 hours preceding 8 A.M. of date.
				Inches.
Assam	Khasia and Jaintia Hills.	Cherra Poonjee	7th June.	18·21
	Sylhet	Lalakhal	8th ,, ,,	17·20
Central India.	Gwalior	Bujirangrah	20th ,, ,,	15·05
Assam	Khasia and Jaintia Hills.	Cherra Punjee.	1st Sept.	17·33
		,, ,,	15th ,, ,,	18·41
Bengal	Southal Parganas	Mohagama	24th ,, ,,	15·61
	Darjeeling	Darjeeling	25th ,, ,,	19·40
		Kurseong	,, ,, ,,	15·18

The following gives a statement of the variation of the mean rainfall of India (excluding Burma) during the past 25 years:—

Year.	Number of divisions. Fall excessive.	Fall normal.	Fall deficient.	Rainfall. Average actual 1899.	Average normal.	Variation from normal.	Percentage variation.
				Inches.	Inches.	Inches.	
1875	16		8	43·47	41·09	+2·38	+ 6
1876	6		18	36·60	41·09	−4·49	−11
1877	10		14	36·81	41·09	−4·28	−10
1878	17	1	6	47·43	41·09	+6·34	+15
1879	16	2	6	42·78	41·09	+1·69	+ 4
1880	13	1	10	39·53	41·09	−1·56	− 4
1881	15		9	41·19	41·09	+0·10	0
1882	17	1	6	43·73	41·09	+2·64	+ 6
1883	11	1	12	40·97	41·09	−0·12	0
1884	12		10	42·82	41·09	+1·73	+ 4
1885	15		7	42·14	41·09	+1·05	+ 3
1886	14		8	44·11	41·09	+3·02	+ 7
1887	11		11	43·51	41·09	+2·42	+ 6
1888	10		12	39·55	41·09	−1·54	− 4
1889	15		8	43·50	41·09	+2·41	+ 6
1890	14	1	8	41·77	41·09	+0·68	+ 2
1891	6		17	37·55	41·09	−3·54	− 9
1892	15		8	46·18	41·09	+5·09	+12
1893	22		1	50·16	41·09	+9·07	+22
1894	17		6	47·56	41·09	+6·47	+16
1895	5		17	38·90	41·09	−2·19	− 7
1896	7	2	14	36·26	41·09	−4·83	−12
1897	10	2	11	40·94	41·09	−0·15	0
1898	10	3	10	41·52	41·09	+0·43	+ 1
1899	6		17	29·95	41·09	−11·14	−27

Concluding Summary.

I.—Cold Weather Period, January and February 1899.—The following table gives mean variation data of the more important meteorological elements for the cold weather period, January and February 1899:—

Meteorological Province.	Mean variation from normal during cold weather period January and February.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	—.020	—0·2	0	+·015	0	—0·3	—0·85	—96
Burma Inland . .	—·012	—0·5	0				—0·07	—18
Assam . . .	—·024	—0·8	—1·8				—0·39	—16
Bengal and Orissa .	—·026	—1·3	—0·3	+·004	0	+0·7	+0·55	+40
Gangetic Plain and Chota Nagpur.	—·029	—0·8	—0·3	0	—1	0	—0·03	—2
Upper Sub-Himalayas .	—·024	0	—1·0	—·039	—6	—1·0	—1·98	—70
Indus Valley and North-West Rajputana	—·020	+1·3	—1·7	—·015	—3	—1·9	—0·47	—48
East Rajputana, Central India and Gujarat.	—·017	+0·4	—1·6	—·061	—9	—1·2	—0·39	—83
Deccan . . .	—·019	+0·1	—1·1	—·076	—8	—0·3	—0·33	—69
West Coast . .	—·018	—0·5	—0·5	—·057	—4	—0·2	+0·79	+203
South India . .	—·022	—0·2	+0·5	—·010	0	+0·6	—0·30	—41
Extra-Tropical India .	—·023	—0·2	—1·2	—·025	—4	—0·7	—0·45	—30
Tropical India . .	—·018	—0·3	—0·2	—·027	—3	—0·1	—0·15	—4
Whole India . .	—·021	—0·2	—0·7	—·026	—4	—0·3	—0·32	—18

The pressure variations were slight to moderate in amount. Pressure was below the normal over the whole of India. The deficiency was greatest in the Gangetic Plain and Chota Nagpur and least in the interior of Burma.

The mean maximum temperature of the period was in defect over the greater part of India. The deficiency was greatest in Bengal and Orissa where it averaged 1°.3. It was in excess in Sind, Rajputana, Central India, Gujarat and in the Deccan, generally by small amounts. The excess was most marked in the Indus Valley and North-West Rajputana where it was 1°.3 in average amount. The mean minimum temperature of the period was normal or in defect over the whole area except South India. The deficiency was greatest in amount in Sind, Rajputana, Central India, Gujarat and the Deccan and also in Assam in which it ranged between 1° and 2°.

The air contained less aqueous vapour than usual over the whole of India except Burma and Bengal where the amount was practically normal and the Gangetic Plain and Chota Nagpur where it was identical with the normal. The deficiency was greatest in East Rajputana, Central India and Gujarat, the Deccan and West Coast. Humidity was below the normal in all divisions except Burma, Bengal and South India where it was normal on the mean of the period. The decreased humidity was most marked in the Deccan, East Rajputana, Central India and Gujarat. There was also less cloud than usual over the whole area except Bengal, the Gangetic Plain, Chota Nagpur and South India. The deficiency was very marked in the area of greatest reduction of the night temperature below the normal including Sind, Rajputana, Gujarat and Central India. The rainfall of the period was more or less in defect over the whole of India with the exception of Bengal, Orissa and the West Coast, in which areas it was in slight to moderate excess.

The chief features of the cold weather season were the prevalence of less disturbed weather than usual in January and the occurrence of a series of feeble storms in February.

A reference to the monthly weather summaries for the year 1899 will show that there was a considerable resemblance between the cold weather period of that year and those of the years 1892, 1896, 1897 and 1898. These periods were with one exception marked by a considerable excess of temperature and by decreased humidity and cloud in North-Western India. The following gives comparative data for the cold weather periods of the years 1892 to 1899 for the area including the Punjab, Rajputana, the North-Western Provinces and Bihar.

Cold Weather Period of	Variation from normal in North-Western India of			
	Temperature.	Humidity.	Cloud.	Rainfall.
	°			Inches.
1899	—0·5	— 6	—0·9	—0·51
1898	+1·1	— 1	—1·0	+1·22
1897	+1·2	— 2	—0·4	—0·12
1896	+2·0	— 3	—0·5	—0·72
1895	+0·8	+ 5	—0·2	+0·43
1894	+0·6	+10	+1·3	+0·92
1893	—4·2	+11	+1·4	+2·04
1892	+2·5	— 2	—0·2	—0·37

The variations of the temperature and humidity conditions in the cold weather of 1898-99 were determined by the distribution of the rainfall during the period, and hence by the distribution and character of the cold weather storms of December 1898 and of January and February 1899.

The chief characteristics of the storms of that period were as follows :—

(1) The number of depressions and cold weather disturbances was less than the normal, more especially in January. Two appeared in January and six in February.

(2) The disturbances were (with one exception) feeble and ill-defined, and did not give rise to deep secondary depressions in the Punjab. The disturbances in January originated in Berar and the Central Provinces and gave rain in North-East India.

(3) The precipitation accompanying these disturbances in the Afghan and Himalayan areas fell as rain to much higher levels than in normal cold weather periods.

(4) The precipitation accompanying these disturbances in January occurred chiefly in North-Eastern India and in February in Northern India and was most general and heaviest in Assam.

The preceding remarks indicate that the chief features of the cold weather storms of 1898-99 were persistent throughout the season.

An examination of the pressure and other conditions obtaining in India before and during the cold weather periods of these two years throws little or no light on the abnormal features of these storms, and hence suggests that they were related either to conditions in the upper atmosphere over Northern India, or to conditions outside of India.

The following table gives vertical pressure anomalies for the cold weather period of 1898-99 :—

Pair of stations.	Vertical pressure anomaly.						
	September 1898.	October 1898.	November 1898.	December 1898.	January 1899.	February 1899.	Mean of period November 1898 to February 1899.
	"	"	"	"	"	"	"
Leh and Lahore.	+·011	+·075	+·048	—·032	+·019	+·118	+·038
Quetta and Jacobabad.	+·020	+·034	+ 033	+·009	+·010	+·057	+·027
Murree and Peshawar.	—·022	+·002	—·002	—·026	—·040	+·020	—·012
Simla and Ludhiana.	+·009	+ 010	+·015	+·002	—·043	+·046	+·005
Chakrata and Roorkee.	+·013	+·031	+·036	+·017	—·024	+·048	+·019
Ranikhet and Bareilly	—·006	+·010	+·020?	+·015	—·026	+·035	+·011
Darjeeling and Dhubri.	—·c36	—·010?	—·021	—·006	—·032	+·021	—·010
Mount Abu and Deesa.	—·018	0	+·009	—·007	—·030	+·004	—·006
Pachmarhi and Hoshangabad.	—·017	—·012	0	—·016	—·041	—·004	—·015

The following table gives the mean vertical pressure anomalies for the cold weather periods, November to February of the past eight years for comparison :—

Pair of stations.	Vertical pressure anomaly.							
	1898-99.	1897-98.	1896-97.	1895-96.	1894-95.	1893-94.	1892-93.	1891-92.
	"	"	"	"	"	"	"	"
Leh and Lahore .	+·038	+·040	+·013	+·041	+·009	—·004	—·046	+·040
Quetta and Jacobabad.	+·027	+·050	— 007	+·019	+·001	+·006	—·007	+·063
Murree and Peshawar.	—·012?	+·041	+·006	+ 022	—·006	?	?	?
Simla and Ludhiana.	+·005	+·019	—·003	+·012	—·017	—·015	—·049	+·017
Chakrata and Roorkee.	+·019	+·028	+·023	+·030	+·010	—·010	—·022	+·039
Ranikhet and Bareilly.	+·011	+·018	+·021	+·025	+·003	+·011?	+·013?	+·030
Darjeeling and Dhubri.	—·010	?	+·004	+·007	+·001	+·017	—·008	+·026
Mount Abu and Deesa.	—·006	—·002	—·008	+·005	—·007	+·003	?	+·027
Pachmarhi and Hoshangabad.	—·015	—·017	+·013	?	+·013	?	+·005	+·024

Hence in the cold weather of 1898-99 the vertical pressure anomalies in North-Western India were generally positive and moderate to considerable in amount, indicating increased pressure in the middle atmospheric strata relatively to the lower strata. The feature was slightly exhibited in September and was persistent in October and November. There was a tendency to a change to the opposite condition in January at all the groups of stations except Leh and Quetta, but the feature was fully re-established in February.

The relative excess of pressure was moderate in October and November 1898 and moderately large in February 1899. The cold weathers of 1895-96 and of 1896-97 bear on the whole the closest resemblance to that of 1898-99.

The rainfall of the cold weather seasons of 1896-97 and 1895-96 in Upper India was below the normal.

The rainfall of the cold weather of 1898-1899 was considerably below the normal over the greater part of Northern and Central India excepting Bengal.

An examination of the Indian monsoon area charts and of the charts in the weekly weather reports issued by the English Meteorological Office indicates the conditions which obtained in Europe during the inception of the storms of the period.

The following table gives a list of the more important cold weather storms of 1898-99 and of the conditions

obtaining in South-East and South Europe during the formation.

Date and character of storm.	Area of formation.	Weather conditions in East, South-East and South Europe, prior to and during the formation of storm.
Feeble cold weather depression of the 1st to the 4th January in Berar, the Central Provinces and Bengal.	Berar and the Central Provinces.	Well marked anticyclonic conditions prevailed over South-East and South Europe throughout the month of January except for a short period from the 2nd to the 4th when a depression affected Central Europe, South Russia and the Balkan Peninsula.
Feeble disturbance of the 5th to the 8th in Berar, the Central Provinces and Bengal.	Berar and the Central Provinces.	
Feeble cold weather storm of the 2nd to the 4th February.	Baluchistan and Sind.	High pressure conditions obtained over the south east of Europe from the 1st to 3rd of February.
Cold weather storm of the 4th to the 6th February.	Upper Sind and North and East Baluchistan.	A small depression lay over and in the neighbourhood of Italy on the 3rd and 4th. It was practically stationary and filled up during the 4th.
Cold weather storm of the 6th to the 8th in Persia and 9th to the 13th February in Northern India and Burma.	Asiatic Turkey.	Strongly pronounced anti-cyclonic conditions prevailed over the whole of South, South-East and East Europe between the 5th and 16th.
Cold weather storm of the 11th and 12th February in Persia and 13th to the 17th in Northern India and Burma.	West Persia.	
Feeble disturbance of the 18th and 19th February.	Upper Sind.	A depression formed over the Black Sea during the 17th. It, however, filled up rapidly during the 18th without changing its position.
Cold weather storm of the 21st and 22nd in Persia and 23rd to the 27th in Baluchistan and Northern India.	Asiatic Turkey.	A storm lay over the Baltic sea on the 20th It was displaced slowly eastwards to West and Central Russia on the 21st and southwards to South Russia on the 22nd. It filled up slowly over the Black Sea, Asia Minor and the south of Russia during the next two days.

The preceding data indicate clearly that the cold weather storms of 1898-99 in India were not the continuation of European storms and that anti-cyclonic conditions prevailed to the north and north-west of Baluchistan or Persia during their initiation.

The preceding discussion has shown that the scanty rainfall during the greater part of the cold weather of 1898-99 was associated, as in previous years of similar conditions, with certain pressure conditions in the middle and probably the higher atmospheric strata. The small table in page 787 shows that the cold weather rainfall was below the normal in North-Western India during the cold weather periods of 1891-92, 1895-96, 1896-97 and 1898-99. The same was the case in the cold weather of the present year, 1899-1900, which may hence be added to the group of years of deficient winter rains in North-Western India. The following data will show that the deficiency was as marked in Baluchistan and Persia as in India so far as is indicated by the available data:—

RAINFALL OF PERIOD DECEMBER TO FEBRUARY.

STATION OR PROVINCE.	Normal of period.	Variation from normal in					
		1891-92.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baghbad .	0·03		+0·51	−2·78	−2·10	−4·50	−3·28
Teheran . .	3·49		−0·08	+0·98	−1·03	−0·58	−0·36
Ispahan . .	0·60		−0·15	+0·08	+1·07	+0·09	+0·71
Bushire . .	9·01	−5·89	−6·33	−3·49	−6·86	−4·30	+2·84
Jask . .	2·47		−1·34	−0·80	−2·36	−1·97	+3·54
Quetta . .	5·05	−3·21	+0·34	−0·77	−2·30	−2·61	+0·20
Kashgar . .	0·69		−0·74	−0·20	−0·82	−0·82	+0·22
Kalat . .	5·11			−2·30	−3·37	−2·93	−2·70
Chaman .	4·63		−2·26	−0·05	−3·03	−1·39	+1·54
Kabul . .	1·85		−1·85	+4·95	−1·47	−1·85	−2·10
Punjab . .	2·22	−1·47	−0·59	+0·17	+7·63	−0·83	−0·63
Rajputana .	0·78		−0·38	−0·27	+0·24	−0·32	−0·68
Sind . .	0·82	−0·63	−0·23	−0·65	−0·20	−0·78	+1·06
North-Western Provinces and Oudh.	1·52	−0·43	−1·05	+0·21	+1·26	−0·26	−0·79

RAINFALL OF PERIOD OCTOBER TO MARCH.

STATION.	Normal of period.	Variation from normal in					
		1891-92.	1895-96.	1896-97.	1897-98	1898-99.	1899-1900.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baghdad .	9·03		+2·61	−5·03	−3·18	−6·25	−4·07
Teheran .	7·73		−0·52	+0·99	−0·67	−3·33	−2·73
Ispahan . .	3·27	−4·56	+0·85	+1·73	−0·26	−1·65	−0·24
Bushire . .	13·30		−7·67	+4·49	−5·30	−4·76	+0·91
Jask . .	4·38	−4·15	−0·73	+2·11	−1·91	−2·96	+2·43
Quetta . .	7·09		+1·74	+0·45	−0·76	−2·49	−0·60
Kashgar . .	1·05		−0·61	+0·50	?	−1·18	+0·06
Kalat . .	7·08		?	+3·08	−3·07	−4·67	−3·40
Chaman .	6·59		−2·39	+0·03	−2·96	−2·17	+0·18
Kabul . .	8·73		+2·27	+2·60	−4·30	−4·58	−3·63

The data of the two preceding tables show conclusively that the winter rainfall and precipitation of the cold weather of 1898-99 was even more largely in defect in Asiatic Turkey, Persia, Baluchistan and probably Afghanistan than in North-Western India and the Western Himalayas. It also indicates that in the very dry winter of 1891-92 the deficiency was also as marked in these

areas as in North-Western India. The facts hence point strongly to the conclusion that deficient cold weather rainfall in North-Western India is not a local incident but is associated with deficiency over the large area to the west of Northern India, incuding Persia, Baluchistan and Asiatic Turkey, and hence that it is not due to abnormal conditions affecting North-Western India only, but to conditions of a much more general character which have not yet been fully investigated.

It may be noted that the relations indicated above have been established by many years' experience and were utilized in the preparation of a forecast of these cold weather rains which was in very fair agreement with fact.

II.—Hot weather, March to May 1899.—The following table gives the mean variations of the more important and meteorological elements in the eleven meteorological provinces of India for the hot weather period March to May 1899 :—

Meteorological Province.	Mean variation from normal during hot weather period, March to May.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation from normal.
	"	°	°	"			Inches.	
Burma Coast and Bay islands.	—·022	—0·9	+1·2	+·027	+3	+0·4	+11.34	+71
Burma Inland .	—·007	—0·2	+0·8				+4·18	+63
Assam . .	—·016	+0·3	+0·1				—2·84	—10
Bengal and Orissa.	—·018	+0·4	+0·7	+·020	0	+0·2	+0·95	+8
Gangetic Plain and Chota Nagpur.	—·013	—0·1	+1·1	+·018	0	+0·3	+1·36	+54
Upper Sub-Himalayas.	—.010	+1·6	+2·8	—·012	—5	—0.3	—1·29	—50
Indus Valley and North-West Rajputana.	—·024	+2·4	+2·4	+·028	—2	—0·6	—0·49	—38
East Rajputana, Central India and Gujarat	—·006	+0·5	+1·8	+·003	—1	—0·9	—0·14	—20
Deccan . .	0	—0·6	+0·7	+.002	+1	+0.1	+0·16	+8
West Coast .	0	—0.3	—0·2	—·023	—3	0	+4·81	+63
South India .	—·004	—1·3	—0·6	—·033	+1	+0·6	+2·01	+47
Extra-Tropical India.	—.015	+0·9	+1·5	+·011	—2	—0.3	—0·41	—9
Tropical India .	—·007	—0.7	+0·4	—·007	+1	+0.3	+4.50	+50
Whole of India.	—·011	+0·2	+1·0	+·003	—1	0	+1·82	+18

The previous table gives mean data for the whole period, and indicates that on the average of the period pressure was in slight defect, temperature generally in slight to moderate excess, humidity slightly to moderately below the normal and cloud and rainfall more or less below the normal in Upper and Central India, but in slight to moderate excess in Burma and the Peninsula.

The mean pressure of the Indian land area was ·010″ in defect in March, ·001″ in defect in April, and ·019″ in defect in May and hence averaged ·010″ in defect for the hot weather period. Series of thunderstorms occurred at intervals in March and April in the Punjab, North-Eastern India and Southern India. Temperature was in general excess in March and May and more or less below the normal in April over the whole area except Upper India.

The local variations of pressure from the general condition in the months of March and April were small and apparently of little importance. The chief feature of the period was a general disturbance in the second week of the month of April which gave moderately heavy rain over the whole of North-Eastern India and the Peninsula. The month of May was considerably hotter than usual over the whole of Northern and Central India, and temperature was on the mean of the month in general excess. The excess was large in amount in the Punjab and moderate to considerable in the interior of Bengal. The hot weather conditions of May gave rise to the following abnormal features of the pressure distribution in that month:—

(1) General deficiency, relatively to the mean condition, over nearly the whole of Northern India and Burma, the deficiency being most marked in Bengal and the West Punjab.

(2) General excess of pressure in the Peninsula and Western India, greatest in the West Coast districts from Kathiawar to North Malabar.

(3) Excess of pressure at the level of the hill stations as compared with the neighbouring plains.

The following table gives comparative data of the month of May for eleven years which were in the great majority of cases characterized by increased temperature and decreased pressure over the Indian area—

Month and year.	Variation from normal of		
	Mean pressure of month.	Mean temperature of month.	Mean aqueous vapour pressure of month.
	"	°	"
May 1879	—·045	+1·3	—·010
,, 1880	—·022	+0·2	—·001
,, 1881	+·002	+0·1	0
,, 1882	+·006	—0·2	—·004
,, 1890	—·022	+0·6	—·011
,, 1892	—·027	+1·8	—·002
,, 1894	—·023	+1·5	—·011
,, 1895	—·007	+2·4	+·027
,, 1896	+·013	+2·3	—·005
,, 1897	—·004	+1·7	—·001
,, 1898	—·008	+0·6	—·015
,, 1899	—·019	+0·8	+·033

The following gives mean temperature variation data of Northern India (including the Punjab, Upper Sind, the North-Western Provinces, Bihar and Rajputana) for the month of May of eleven years resembling May 1899 in their chief features :—

Month and year.	Variation of mean temperature in Northern India.	Area of greatest variation.	Amount of greatest variation.
	°		°
May . . .	+4·0	North-Western Provinces	+5·0
,, 1880 . . .	+2·0	South Punjab . .	+5·6
,, 1881 . . .	+0·8	Do. . . .	+2·9
,, 1882 . . .	−0·5	North Punjab . .	+2·1
,, 1890 . . .	+1·5	Punjab . . .	+2·5
,, 1892 . . .	+3·0	West Punjab . .	+5·5
,, 1894 . . .	+3·0	Chota Nagpur . .	+5·0
,, 1895 . . .	+4·0	Punjab . . .	+6·0
,, 1896 . . .	+3·1	Do. . . .	+4·8
,, 1897 . . .	+3·6	North-West Rajputana.	+5·5
,, 1898 . . .	+0·8	Assam (Surma) . .	+3·6
,, 1899 . . .	+3·3	Punjab (Central) . .	+6·3

The data of the preceding table show that the temperature conditions of May 1881, 1882, 1890 and 1898 were practically normal. In each of the months of May 1879, 1880, 1892, 1894, 1895, 1896, 1897 and 1899 temperature was considerably above the normal, due largely, if not solely, to deficient precipitation in the cold weather period over the plains and adjacent mountain areas of Northern India. In each of these months, except that of May 1896, the mean pressure of the Indian area was in defect, the deficiency averaging ·028″ for the first five years and almost identical in amount with this in four out of these five years.

Excessive temperature in the month of May generally gives rise to a larger diminution of pressure over the Indian area than that normal to the month, and hence to a deficiency of pressure as compared with the normal. The decrease of pressure is chiefly, if not solely, a temperature effect.

This is confirmed by the fact that in each of these months (*viz.*, May 1879, 1880, 1890, 1892, 1894, 1895, 1896, 1897, 1898 and 1899) presure was in relative excess or the vertical pressure anomalies were positive at the hill stations in Northern India. This is established by the following data for six pairs of stations :—

Pair of stations.	Vertical pressure anomaly in May.									
	1879.	1880.	1890.	1892.	1894.	1895.	1896.	1897.	1898.	1899.
	″	″	″	″	″	″	″	″	″	″
Quetta and Jacobabad.	?	?	+·006	+·050	+.037	+·063	+·046	+·050	+·012	+·043
Leh and Lahore.	?	+.069	+·063	+·125	+·082	+·101	+·085	?	+·003	+·075
Murree and Rawalpindi.	+·040	+·038	+·041	+·035	+·028	+·057	?	+.017	+·001	+·033
Simla and Ludhiana.	?	?	+·033	+·049	+.042	+·060	+·050	+·054	+·009	+·047
Chakrata and Roorkee	+·044	+·015	+·022	+·040	+·035	+·045	+·038	+·058	+·025	+·045
Darjeeling and Calcutta.	+.032	+·007	+·002	+·003	+·023	+·033	+·011	+·028	+·015	+·025
Mean .	+·039	+·032	+·028	+·050	+·041	+·06.	+·046	+·041	+·011	+0.45

The large positive vertical anomalies were evidently in each case the result of the temperature conditions of the month in Northern India, which, by the various air movements which it either strengthened or initiated, diminished pressure at the level of the plains in Northern India and to a smaller extent at the level of the hills, thus giving positive vertical pressure anomalies, which increased with elevation and were hence greatest for Leh.

A second interesting feature of the meteorology of the month of May in each of these years, except 1879, is that pressure was in local excess in the Peninsula, more especially in the West Coast districts, and in local defect in Northern India. The following table gives data in illustration :—

Area.	Station.	Pressure anomaly of May.									
		1879.	1880.	1890.	1892.	1894.	1895.	1896.	1897.	1898.	1899.
		″	″	″	″	″	″	″	″	″	″
Northern India.	Calcutta	+·003	+·002	−·001	−·019	−·035	−·024	−·010	−·007	−·006	−·023
	Patna	−·014	+·019	−·013	−·037	−·055	−·030	−·023	−·029	−·018	−·012
	Allahabad	−·012	0	0	−·030	−·037	−·040	−·026	−·028	−·006	−·009
	Lahore	−·003	−·030	−·019	−·036	−·031	−·038	−·019	−·020	+·001	−·009
	Mooltan	+·013	−·027	−·016	−·045	−·036	−·048	−·031	−·027	+·008	−·042
	Peshawar	+·026	−·036	−·005	−·029	−·014	−·022	−·014	+·011	−·002	−·045
	Rajkot	−·014	+·005	+·044	+·050	+·059	+·044	+·041	+.027	+·025	+·025
Western India and Malabar.	Bombay	−·040	+·012	+·025	+·021	+·050	+·043	+·031	+·024	+·018	+·023
	Karwar	?	+·030	+·031	+·015	+·050	+·049	+·033	+·028	+·014	+·027
	Poona	+·016	+·012	+·027	+·035	+·044	+·030	+·029	+·019	+·018	+·019
	Belgaum	−·022	−·005	+·014	+·027	+·047	+·036	+·035	+·020	+·032	+·024
	Cochin	−·007	−·010	?	+·036	+·035	+·034	+·031	+·007	+·004	+·027
	Calicut	?		?	+·022	+·035	+·032	+·027	+·007	+·004	+·024

The preceding data establish that generally, if not invariably, exaggerated hot weather conditions in Northern India in May tend to give a larger deficiency of pressure in Northern India than the mean deficiency of the whole of India, and a smaller deficiency in the Peninsula (more especially in the West Coast districts), or in other words, to give negative pressure anomalies in Northern India and positive anomalies in the Peninsula. This is mainly, if not entirely, a result of increased temperature in the hot weather.

The experience of the year 1899, hence confirms the conclusions stated in the Annual Summary for 1898, that more strongly marked hot weather conditions than usual (*i. e.*, increased temperature and great dryness of the air) in Northern India in the month of May accompany or initiate the following pressure conditions :—

(1) General deficiency of pressure over India.

(2) Relative excess of pressure at the level of the hill stations in Northern India, as compared with that at the level of the plains.

(3) Relative deficiency of pressure in Northern India, usually most marked in or near the area of greatest excess of temperature.

(4) Relative excess of pressure in the Peninsula, greatest in amount in the West Coast districts Gujarat and Kathiawar.

The highest temperatures of the year were registered during the last week of May and the third week of June in Sind and the Punjab and in the second week of May in West Rajputana. Maximum temperatures exceeding 115° were registered at the following stations during the hot weather :—

Province.	Station.	Highest maximum temperature recorded during the year.	Date on which recorded.
		°	
Punjab	Khushab	118·9	27th May.
	Mooltan	118·5	20th June.
	Montgomery	117·5	27th May.
	Dera Ismail Khan	117·2	27th May, 10th and 20th June.
	Lahore	116·6	8th June.
	Sialkot	115·9	10th June.
	Sirsa	115·8	13th May.
	Peshawar	115·5	20th June.
Sind	Jacobabad	123·0	20th June.
	Hyderabad	118·7	17th May.
Rajputana	Bikaner	115·8	12th May, 20th and 21st June.
	Pachpadra	115·8	16th May.
	Kotah	115·6	13th May.
Asiatic Turkey	Baghdad	118·9	27th June.

The following table gives vertical pressure anomalies for each month of the hot weather period of 1899 in Northern India, determined from the variation data of six pairs of stations. It will be seen that the vertical pressure anomalies in Upper India, which were small and negative in April, were positive and large in amount in March and May :—

Pair of stations.	Vertical pressure anomaly.			
	March.	April.	May.	Mean of period.
	"	"	"	"
Quetta and Jacobabad	+·035	+·032	+·043	+·037
Leh and Lahore	+·063	−·013	+·075	+·042
Murree and Peshawar	+·007	−·007	+ 058	+·019
Simla and Ludhiana	+·042	−·001	+·047	+·029
Darjeeling and Dhubri	−·012	−·033	+·035	−·003
Mount Abu and Deesa	+·015	0	−·021	−·002

The meteorology of India during the hot weather of 1899 was determined mainly, if not entirely, by meteorological actions and conditions in India itself and by the distribution of the cold weather snowfall in the Himalayan area.

The cold weather or winter snowfall was considerably below the normal in the Western Himalayas and Afghanistan mountains and the winter terminated earlier than usual in the latter area. The extent of the snow-clad surface was less than usual at the beginning of the winter and was hence considerably below the normal in the beginning of March. The disturbances in March and April gave a moderate and late general fall of snow in the Western Himalayas. The snow accumulation melted rapidly during the dry hot weather of May, and was again much below the normal at the end of the month. The general character of the weather in Northern India in these months and more especially in May was such as is invariably associated with deficient winter precipitation and early termination of the winter in the Western Himalayas.

A noteworthy feature was the increased rainfall in Burma, the Assam Valley and the greater part of Bengal during the hot weather. This is the rule in about four out of five years of deficient cold weather rains in North-Western India.

The larger features of this period were directly related to the snowfall of the previous cold weather season and to that of the second week of May in the North-West Himalayas.

The following gives rainfall variation data for Burma, Assam and Bengal :—

Area.	Rainfall.							
	March.		April.		May		Total of period.	
	Variation from normal.	Percentage Variation from normal.	Variation from normal.	Percentage variation from normal.	Variation from normal.	Percentage variation from normal.	Variation from normal.	Percentage variation from normal.
	Inches		Inches		Inches		Inches	
Burma Coast and Bay Islands.	+ 0·20	+ 30	+ 1·48	+ 58	+ 9·60	+ 76	+ 11·31	+ 71
Burma Inland . .	— 0·38	— 93	— 0·38	— 28	+ 4·94	+ 101	+ 4·18	+ 63
Assam (Surma) . .	— 1·50	— 18	+ 0·72	+ 6	— 1·87	— 11	— 2·65	— 7
Assam (Brahmaputra)	+ 0·66	+ 16	— 0·13	— 2	+ 1·28	+ 11	+ 1·81	+ 8
Eastern Benga . .	— 1·50	— 58	+ 2·72	+ 63	+ 3·62	+ 35	+ 4·84	+ 28
Deltaic Bengal . .	— 1·30	— 76	+ 1·58	+ 68	+ 3·77	+ 61	+ 4·05	+ 40
Central Bengal . .	— 0·89	— 86	+ 0·11	+ 7	— 0·94	— 18	— 1·73	— 22
North Bengal . .	+ 0·40	+ 33	— 0·2	— 6	— 2·62	— 25	— 2·46	— 16

III. The south-west monsoon period, June to September 1899.—The meteorological conditions in the Indian land area antecedent to the establishment of the south-west monsoon were favourable to a normal monsoon and also to its rapid extension over nearly the whole of India.

The following gives the most prominent and important of these antecedent conditions :—

(1) The snowfall of the preceding winter was much less than usual over the whole of the Western Himalayas and also in Afghanistan, Baluchistan and Persia. It was probably in local excess in Kashmir and also in Kumaon and Garhwal. The snowfall was distributed fairly throughout the season, and there was no abnormal accumulation at the end of May, except perhaps on the higher ranges in Kashmir.

(2) The snowfall of the preceding winter was heavier than usual in the Sikkim and Assam Himalayas.

(3) The pressure conditions in India during the previous five months were such as accompany higher temperature in Northern India and less snowfall than usual in the Western Himalayas. The chief features, which were fairly persistent, were (*a*) general deficiency of pressure, (*b*) local deficiency in Northern India and Burma, most marked in Bengal and the Punjab, and (*c*) local excess in the Peninsula and Central India, greatest in Berar, the Konkan, Malabar and West Deccan.

(4) The temperature conditions during the previous five months were such as usually accompany a drier winter than usual in the Himalayan area—more especially on the lower and middle ranges. Temperature was in moderate excess in February and March in Northern and Central India and in large excess in Upper India in May.

(5) The air was throughout nearly the whole season much drier than usual and skies remarkably free from cloud.

(6) The air movement was more vigorous than usual in March and May, due to the intensified thermal conditions of the period in the interior of India.

(7) The conditions in the Indian Seas and the Indian Ocean were, so far as could be ascertained, satisfactory and favourable, and indicated that the conditions in the south-east trades region were at least normal, and that the air movement in that area was somewhat stronger than usual.

The following were the inferences or forecast (prepared in the first week of June) of the probable distribution of the monsoon rainfall based on these conditions :—

"(1) Conditions are favourable to the prevalence of monsoon currents of at least normal strength in the Bay of Bengal. The rains will probably commence slightly before or about the normal date in Bengal (*i.e.*, the 15th of June).

"(2) Conditions are favourable to the prevalence of monsoon currents of at least normal strength in the Arabian Sea. They are also slightly more favourable in that sea than in the Bay. The influence of the late snowfall in April will very probably be very slight, and, so far as can be judged, the monsoon ought to set in on the Bombay Coast before the 8th of June.

"(3) Conditions are favourable in Burma, and it will probably receive at least normal rain. The rainfall is more likely to be in excess in Lower Burma than in Upper Burma.

"(4) Conditions are slightly unfavourable in North Bengal and Assam. The rainfall on the mean of the whole area will very probably not be above the normal and probably be in slight to moderate defect.

"(5) Conditions are favourable in West, South and East Bengal—more especially in the two latter areas, and the rainfall of the south-west monsoon period will be very probably normal and probably in excess in South and East Bengal, and normal or in slight defect in West Bengal and Orissa.

"(6) Conditions are slightly unfavourable in Bihar and Chota Nagpur, due to the deficiency of pressure in Bengal and Assam, and the rainfall on the average of the whole area will very probably not be above the normal, and probably be in defect to a slight extent. Conditions are slightly more favourable in Chota Nagpur than Bihar.

"(7) Conditions are, on the whole, favourable for normal rain in the North-Western Provinces. There is a slight probability, based chiefly on the pressure conditions in the Punjab, that the rainfall of the whole area may be in slight

to moderate excess. It is more probable the rainfall will be in excess in the western than the eastern districts.

"(8) Conditions are favourable in the Punjab. The pressure conditions of May (more especially the deficiency in the West Punjab) strongly resemble those of May 1880, 1892 and 1894. Comparison with these years indicates that the monsoon rainfall of the present year will probably be above the normal. The character of the rainfall in this area, however, depends chiefly on the general strength of the monsoon and not on the local conditions, and these conclusions should be suitably modified if the monsoon turns out to be much weaker than is anticipated in the forecast, in which case the rainfall may be below the normal to a moderate extent in the West and Central Punjab and normal or in slight defect in the East Punjab.

"(9) Conditions are, on the whole, favourable in Rajputana—more especially in the eastern and central districts, due to the same conditions as in the Punjab. The monsoon rainfall will hence very probably be at least normal in the eastern and central districts and probably in moderate excess. It will probably be about normal in the western states. The rainfall in these areas, as in the Punjab, depends chiefly on the general strength of the monsoon, and hence, if the Bombay monsoon current be weak, the rainfall will be normal or in slight defect.

"(10) Conditions are about as favourable in Central India as in the North-Western Provinces, and it is probable that it will receive at least normal rainfall. The rainfall is more likely to be in excess in the eastern than the western states.

"(11) Conditions are, on the whole, favourable in the Central Provinces and to a slightly less extent in Hyderabad. It is hence probable that they will receive at least normal rainfall. The conditions are more favourable in the eastern than the western districts of the Central Provinces, and it is hence probable that the eastern districts may receive rainfall in slight to moderate excess of the normal.

"(12) Conditions are not quite so favourable in Berar and Khandesh, and the rainfall in these areas will probably not be above the normal and may be in slight defect. They are also slightly unfavourable in the West Deccan, and that area will very probably not receive more than its normal fall and probably less.

"(13) The conditions in the west coast districts are such as are in normal monsoons associated with at least normal rainfall. It is hence very probable that the rainfall of the present year's south-west monsoon will be at least normal in those districts, and probably it may be in slight to moderate excess.

"(14) The variations of the rainfall in the North Madras coast districts are in at least five years out of six similar to those of Orissa and the Central Provinces. Conditions appear to be on the whole favourable, and it is probable those districts will receive about normal rain.

"(15) A comparison of the conditions in the Madras Deccan, Mysore and the Carnatic with those of similar years indicates that the rainfall during the period—June to August—will probably be in slight defect—more especially in Mysore. It is, however, very difficult to forecast for this part of India, as rain in the southern half of the Peninsula during the monsoon proper occurs chiefly during the intervals of breaks in the rains of Northern India, and is hence essentially of irregular occurrence."

The forecast was a partial failure, as it was based on an erroneous estimate of the strength of the Bombay monsoon current and of the south-east trades due to absence of information from the latter area.

The following gives a brief summary of the chief features of the south-west monsoon period of 1899:—

Meteorological Province.	Variation from normal during south-west monsoon season, June to September.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation from normal of rainfall.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	−·091	+0·7	+1·2	+·014	− 1	+0·3	− 9·02	− 8
Burma Inland	−·005	−0·4	+0·6				+ 3·34	+10
Assam	−·008	−1·8	−0·3				+ 8·25	+12
Bengal and Orissa	+·002	+0·2	+0·3	+·014	0	+0·3	+ 6·66	+13
Gangetic Plain and Chota Nagpur.	+·002	−0·1	−0·2	−·020	− 2	+0·2	+ 7·51	+20
Upper Sub-Himalayas.	−·003	+2·3	+1·0	−·061	− 7	−1·1	−14·22	−45
Indus Valley and North-West Rajputana.	0	+2·0	+1·0	+·002	− 2	−0·9	− 5·56	−79
East Rajputana, Central India and Gujarat.	+·031	+3·1	+1·3	−·090	−13	−1·4	−14·66	−53
Deccan	+·034	+3·1	+1·2	−·058	−10	−0·5	−17·16	−50
West Coast	+·031	+1·1	+0·8	−·038	− 5	−1·1	−34·23	−41
South India	+·018	+2·4	+1·1	−·026	− 5	+0·1	− 4·98	−34
Extra-Tropical India.	+·004	+1·0	+0·5	−·031	− 5	−0·6	− 2·00	−22
Tropical India	+·015	+1·4	+1·0	−·027	− 5	−0·3	−12·41	−25
Whole India	+·009	+1·1	+0·7	−·029	− 5	−0·5	− 6·73	−23

The large abnormal conditions of the period were mainly dependent upon the distribution of the rainfall during the period in Northern India, the chief features of which were very scanty rainfall and drought during the period, July to September, in the Bombay monsoon region

and heavier rainfall than usual in North-Eastern India and Upper Burma. These conditions were as follows :—

(1) Pressure was normal or in very slight defect on the mean of the period in the area of increased rainfall in Northern India and in moderate excess in the drought area in Western India and the Peninsula.

(2) Temperature was in slight to largish excess over the Peninsula and Western India, the increase being greater in the day than in the night temperature, and was most largely in excess in the drought area, including Berar, the Central Provinces, Bombay, Central India, Rajputana and the West and South Punjab.

(3) There was, on the whole, much less cloud than usual in Western India and the Peninsula, and the humidity was in considerable to large defect, accompanying diminished amount of aqueous vapour. The deficiency in the relative humidity was greatest in the drought area, in which it averaged 9 for the whole period.

(4) The rainfall was below the normal in seven provinces. The deficiency was small and unimportant in Burma Coast and Bay Islands. It ranged between 25 and 50 per cent. in the Upper Sub-Himalayas, Deccan, West Coast and South India, and exceeded 50 per cent. in the Indus Valley and North-West Rajputana and East Rajputana, Central India and Gujarat.

(5) The rainfall was in excess in the remaining four divisions by percentage amounts averaging 14.

The following table, giving comparative rainfall data of thirteen large political divisions for the period June to October 1899, gives a more satisfactory basis for the comparison of rainfall :—

Province.	Rainfall of season June to October.			
	Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Burma	93·56	98·30	− 4·74	− 5
Assam	85·03	73·23	+11·80	+16
Bengal	71·63	60·05	+11·58	+19
Chota Nagpur	40·32	47·36	− 7·04	−15
Bihar	57·89	43·27	+14·62	+34
North-Western Provinces and Oudh.	36·50	34·67	+ 1·83	+ 5
Punjab	7·58	15·24	− 7·66	−50
Central Provinces	24·85	45·83	−20·98	−46
Central India	26·38	40·95	−14·57	−36
Rajputana	8·12	18·67	−10·55	−57
Berar	10·75	37·48	−26·73	−71
Bombay	16·51	41·24	−24·73	−60
Madras	27·82	34·49	− 6·67	−19

The rainfall of the period, as indicated by this statement, was normal in amount (and also very favourably distributed in every respect) in Burma. It was in slight to considerable excess in Assam, Bengal, Bihar and the North-Western Provinces (due to increased rain in the eastern districts). The excess was large in Bihar (34 per cent.). The rainfall of the period was in very serious defect over nearly the whole of the Peninsula and North-West India, the deficiency ranging between 40 per cent. and 75 per cent. in the Punjab, Rajputana, Central India, Berar, the Central Provinces and Bombay.

The causes of the remarkable deficiency of the rainfall over North-Western, Central and Western India are discussed in the section entitled "Concluding remarks."

The initial burst of the south-west monsoon was undoubtedly weaker than usual. This was shown (1st) by its delay, (2nd) by the absence of cyclonic weather during its first advance over the Arabian Sea, and (3rd) by the unusually short period of the first and only strong advance of monsoon winds in that sea.

It has been stated above that conditions were extremely favourable in India for a strong monsoon and favourably distributed rainfall over practically the whole of India.

The combination of a South-East Trades circulation, slightly feebler than usual, at the commencement of the monsoon and of favourable conditions in India during the hot weather month of May 1899 appears to be sufficient to account for the following features of the rainfall of the month of June :—

(1) The slight delay in the establishment of the monsoon currents over the Indian seas and the coast districts of India in the beginning of June.

(2) Their rapid extension over the Indian land area to the limits of the Punjab in the third week of June.

(3) Heavier rainfall than usual not only in North-Eastern India, but also in the northern belt of the area dependent on the Bombay current, including the Punjab, Rajputana, Central India and the North-Western Provinces in the month of June.

These initial conditions fail to explain fully the following features of the remaining months of the south-west monsoon of 1899 :—

(1) Normal or excessive rainfall in Burma and North-East India during the remainder of the monsoon season from July to September.

(2) Very scanty rainfall and more or less complete drought in the greater part of the area dependent on the Bombay current from July to September.

The chief feature of the south-west monsoon rainfall in 1899 was its more or less complete failure in North-Western and Western India and the Deccan.

The following gives average rainfall variation data for the two periods (*a*) June and (*b*) July to September in

thirteen political divisions in illustration of the preceding remarks:—

Area.	Rainfall. June. Actual variation.	Rainfall. June. Percentage variation.	Rainfall. July to September. Actual variation.	Rainfall. July to September. Percentage variation.
	Inches.		Inches.	
Punjab	+1·07	+ 63	− 8·52	−64
Rajputana	+1·90	+ 76	−12·25	−77
Central India	+7·39	+113	−20·41	−62
North-Western Provinces and Oudh.	+5·59	+129	− 2·50	− 9
Bihar	+3·47	+ 47	+12·93	+39
Chota Nagpur	+3·56	+ 43	− 8·53	−24
Bengal	+2·35	+ ·16	+ 8·44	+21
Assam	+5·92	+ 30	+ 4·31	+ 9
Berar	−2·84	− 40	−21·42	−77
Central Provinces	−2·32	− 29	−16·68	−47
Bombay	+0·18	+ 2	−22·67	−74
Madras	−0·84	− 12	− 6·63	−34
Burma	−5·51	− 21	+ 3·1	+ 5

The preceding data indicate the increased rainfall in June over North-Western and Central India and the very scanty rainfall in July, August and September in North-Western and Western India and the Deccan.

The preceding remarks suggest that the failure of the south-west monsoon rainfall over the large area dependent upon the Arabian Sea monsoon current (including, it may be noted, the Abyssinian region) was not due to local conditions, but to conditions in the south-east trades.

The information at present available for discussing the meteorology of the south-east trades region of the Indian Ocean is very limited.

The following gives variation data of the Royal Alfred Observatory, Mauritius, for nine months of the year, deduced from a comparison of the means of 1899 with normal means based on the observations of the previous 25 years:—

Month.	Variation from normal of pressure.	Variation from normal of rainfall.	Percentage variation of rainfall.	Variation from normal of hourly wind velocity in miles.	Percentage variation of wind velocity.
	"	Inches.			
January 1899	−·036	−4·87	−69	+1·8	+16
February ,,	− 037	+0·38	+ 6	−1·7	−15
March ,,	−·023	+3·87	+47	+0·3	+ 3
April ,,	−·008	−0·84	−15	−0·7	− 7
May ,,	−·007	−2·60	−60	−0·5	− 5
June ,,	−·007	−0·34	−17	−1·2	−11
July ,,	+·064	+0·66	+29	+2·0	+17
August ,,	+·051	+0·94	+38	+2·3	+20
September ,,	+·014	+0·24	+17	−0·2	− 2

The most remarkable feature of the meteorology of the period at Mauritius was the decreased air movement, rainfall and pressure in April, May and June immediately antecedent to the northward extension of the south-east trades across the equator. Winds were stronger than usual, and pressure above the normal in July and August.

In the following table a similar comparison is given for Zanzibar, the normal means being deduced from the observations of eight years:—

Month.	Variation from normal of pressure.	Variation from normal of rainfall.	Percentage variation of rainfall.	Variation from normal of hourly wind velocity in miles.	Percentage variation of wind velocity.
	"	Inches.			
January 1899	+·024	− 1·61	− 55	−1·8	−22
February ,,	−·032	− 2·96	− 99	+0·5	+ 8
March ,,	+·005	+ 1·14	+ 22	−0·7	−12
April ,,	+·008	+ 9·12	+ 77	+0·1	+ 1
May ,,	0	+10·43	+118	+1·4	+17
June ,,	+·029	−0·23	− 19	−0·7	− 8
July ,,	+·020	+ 1·96	+ 92	−1·6	−19
August ,,	+·012	+ 1·00	+ 55	−1·3	−19
September ,,	+·048	− 0·61	− 39	−1·0	−17

The preceding data indicate that the meteorology of Zanzibar in 1899 was characterized by unusual lightness of the winds from June to September, and increased pressure throughout nearly the whole period from January

to September. The rainfall was in large excess, more especially in April and May. The most important feature in the meteorology of the south-east trades region in the pre-monsoon period, January to May, was the feebleness of the gradients due to decreased pressure at Mauritius and increased pressure at Zanzibar.

The following table gives the mean pressure differences between Mauritius and Zanzibar and Mauritius and the Seychelles (determined from the data of the five years 1894-98) and the actual differences in the corresponding months of the year 1899:—

MONTH.	PRESSURE DIFFERENCE.					
	MAURITIUS MINUS ZANZIBAR.			MAURITIUS MINUS SEYCHELLES.		
	Mean of 1894 to 1898.	Mean of 1899.	Variation.	Mean of 1894 to 1898.	Mean of 1899.	Variation.
	"	"	"	"	"	"
January . . .	+·026	−·003	−·029	+·017	−·002	−·019
February . . .	−·020	+·030	+·050	−·015	+·002	+·017
March	+·050	+·042	−·008	+·060	+·036	−·024
April	+·057	+·065	+·008	+·106	+·114	+·008
May	+·065	+·055	+·010	+·166	+·168	+·002
June	+·054	+·043	−·011	+·221	+·192	−·029
July	+·077	+·130	+·053	+·224	+·276	+·052
August . . .	+·105	+·142	+·037	+·240	+·279	+·041
September . . .	+·113	+·094	−·019	+·216	+·199	−·017
Mean of whole period .	+·068	+·066	−·002	+·139	+·140	+·003
Mean of June to September.	+·087	+·102	+·015	+·225	+·237	+·012

The preceding data establish that the pressure differences or total gradients between Mauritius and the equatorial belt, as represented by the Seychelles, were less than the mean of the five years 1894-98 in the first and last months (June and September) of the south-west monsoon period of 1899, and were slightly greater in July and August.

The following table gives a comparison, week by week, from the 1st of May to the end of September, of the air pressure and velocity of the air movement at Port Victoria, Seychelles, in the five years 1895, 1896, 1897, 1898 and 1899:—

Weekly means of pressure and wind velocity at Port Victoria, Seychelles.

WEEK.	1895.		1896.		1897.		1898.		1899.	
	10 A.M. pressure reduced to sea level and constant gravity at Lat. 45°.	Hourly wind velocity in miles.	10 A.M. pressure reduced to sea level and constant gravity at Lat. 45°.	Hourly wind velocity in miles.	10 A.M. pressure reduced to sea level and constant gravity at Lat. 45°.	Hourly wind velocity in miles.	10 A.M. pressure reduced to sea level and constant gravity at Lat. 45°.	Hourly wind velocity in miles.	10 A.M. pressure reduced to sea level and constant gravity at Lat. 45°.	Hourly wind velocity in miles.
	"		"		"		"		"	
1st to 7th May	29·899	5·9	29·915	5·3	29·886	7·1	29·863	3·1	29·877	5·7
8th to 14th „	·912	3·6	·957	8·3	·931	6·4	·879	2·4	·880	4·4
15th to 21st May.	·899	3·7	·921	10·1	·906	6·2	·896	7·9	·899	7·5
22nd to 28th May.	·925	6·4	·955	9·4	·875	6·9	·901	7·5	·947	10·5
29th May to 4th June.	·895	9·9	·923	9·4	·852	4·5	·845	7·5	·927	10·9
5th to 11th June.	·863	12·9	·913	9·5	·864	7·3	·874	10·8	·947	8·3
12th to 18th June.	·886	11·6	·876	11·8	·916	7·8	·921	13·7	·966	12·2
19th to 25th June.	·976	10·3	·951	9·9	·934	9·0	·928	10·3	·949	13·5
26th June to 2nd July.	·989	13·0	·945	10·7	·941	4·0	·955	13·0	·972	11·7
3rd to 9th July.	30·001	9·7	·963	12·6	·942	11·3	·919	13·9	·987	16·9
10th to 16th July.	29·970	11·3	·990	11·9	·914	10·0	·913	12·2	·995	14·8
17th to 23rd July.	30·005	14·0	30·048	12·6	·906	9·2	·925	8·9	·965	13·3
24th to 30th July.	·003	11·2	29·998	11·3	·902	16·8	·936	11·5	·972	14·8
31st July to 6th August.	29·974	13·2	·949	15·8	·925	11·5	·934	12·4	·962	13·0
7th to 13th August.	·927	11·7	·953	14·0	·962	9·9	·956	12·3	·947	14·2
14th to 20th August.	·963	16·0	·994	13·7	·945	13·1	·941	14·3	·968	15·3
21st to 27th August.	·973	14·0	30·014	15·5	·926	12·8	·940	12·3	·990	15·8
28th August to 3rd Sept.	·935	12·0	29·957	16·1	·902	8·9	·947	9·9	·968	12·2
4th to 10th September.	·991	13·3	·947	10·8	·965	16·7	·894	13·4	·987	15·0
11th to 17th September.	·987	12·9	·957	13·3	·933	10·9	·898	12·5	30·007	12·8
18th to 24th September.	30·015	12·1	·987	12·8	·940	13·0	·954	10·3	·040	7·5

The hot weather conditions of pressure and temperature were strongly marked in 1899, and the slight delay in the strengthening of the winds at the Seychelles immediately antecedent to the monsoon indicated by the data of the preceding table was not due to conditions in either the Indian land or sea area, and was almost entirely due to conditions outside of India, and probably present in the Indian Ocean.

The data of the preceding four tables indicate that the meteorological conditions in the south-east trades region were abnormal, more especially in the period antecedent to the south-west monsoon and in the month of June. The variations of the actual pressure and of the pressure gradients were not large. It is

noteworthy that the gradients were actually considerably greater than usual in the months of July and August, when the drought and failure of the monsoon in India and Abyssinia was most conspicuous. The known facts of the distribution of rainfall in South Africa and at Zanzibar and the Seychelles suggest that, although the south-east trades were of at least normal strength during the greater part of the monsoon period, they were deflected more largely than usual to South and Central Africa.

These data, more especially those of the last table, appear to indicate that the south-east trade winds were probably below their normal strength in June 1899, and were slightly stronger than usual in July and August.

The following gives the mean direction of the actual and normal air movement at Zanzibar, the Seychelles and in the western half of the Equatorial Belt, and shows that the direction of the air movement in the south-east trades area was very considerably modified :— .

Month.	Zanzibar.		Seychelles.		Ships in West Equatorial belt.	
	Actual.	Variation E.	Actual.	Variation E.	Actual.	Variation E.
January . .	N 36° E	+ 1°	N 32° W	+11°	N 59° E	+54°
February . .	N 43° E	+ 9°	N 13° W	+14°	N 10° E	+15°
March . .	S 34° E	0	N 25° E	+56°	N 6° E	−22°
April . .	S 2° W	− 7°	S 54° E	−15°	S 72° E	+36°
May . . .	S 1° W	− 6°	S 44° E	0	S 39° E	− 1°
June . . .	S 4° E	0	S 22° E	+ 1°	S 26° E	0
July . . .	S 8° E	+ 3°	S 41° E	+12°	S 39° E	+ 8°
August . .	S 8° E	− 1°	S 32° E	− 4°	S 40° E	+ 2°
September .	S 2° W	−10°	S 30° E	−11°	S 4° W	−39°

The preceding data indicate :—

(1) Much irregularity in the variations of the winds in the north-west of the Indian Ocean from their normal directions during the period January to May.

(2) Increased easting of the winds in the same area in June and July and increased westing (or decreased easting) in September. The mean variations in June, July and August were small in amount.

The preceding discussion has shown abnormal variations of the pressure conditions and the air movement in the south-east trades region, but they appear to be inadequate to explain the remarkable features of the Arabian Sea current as a rain-giving current.

A remarkable feature of the meteorology of the period in India was the pressure variations or anomalies which were closely related to the distribution of rainfall in a very suggestive manner. In the region of increased rainfall in North-Eastern India and Burma, the anomalies were throughout from July to September negative, and in the drought area in Western and North-Western India they were steadily positive, their amounts being greatest in the area of the greatest intensity of the drought.

The following gives data in illustration :—

Province or Division.	Pressure anomaly.			
	June.	July.	August.	September.
	"	"	"	"
Burma	+·022	−·040	−·033	−·016
Assam	+·004	−·032	−·036	−·023
Bengal	+·009	−·023	−·028	−·019
Orissa	+·031	+·009	−·028	+·008
Bihar	−·007	−·026	−·026	−·022
Chota Nagpur . .	+·003	−·004	−·009	+·010
North-Western Provinces and Oudh.	−·014	−·017	−·010	−·011
Punjab	−·021	−·033	−·010	−·014
Sind	−·036	−·006	+·037	+·024
Rajputana . . .	−·016	+·024	+·047	+·023
Gujarat	−·013	+·046	+·061	+·041
Central India . . .	−·009	+·022	+·026	+·023
Central Provinces . .	+·002	+·031	+·021	+·033
Berar	−·001	+·048	+·041	+·041
West Coast . . .	−·004	+·034	+·026	+·017
Bombay Deccan . .	−·013	+·041	+·037	+·022
Mysore	−·012	+·014	+·007	−·007
Madras Coast . .	+·015	+·017	−·007	+·003
Madras Deccan . .	+·001	+·028	+·019	+·009
South India . . .	0	+·006	−·003	−·010

IV.—The retreating south-west monsoon period October to December 1899.—The following gives mean variation data of this period for eleven meteorological provinces :—

Meteorological Province.	Variation from normal during retreating south-west monsoon season October to December.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation of rainfall from normal.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	+·035	+0·2	+0·1	−·038	−4	−0·3	−4·51	−31
Burma Inland .	+·027	−1·6	−0·2				+1·53	+24
Assam . .	+·031	−1·9	−1·0				+0·45	+7
Bengal and Orissa	+·031	−0·1	−0·9	−·011	−1	−0·5	−0·58	−9
Gangetic Plain and Chota Nagpur.	+·014	+2·8	−0·3	−·001	−7	−0·8	−2·18	−72
Upper Sub-Himalayas	+·009	+3·2	+2·2	−·071	−12	−0·1	−0·82	−77

Meteorological Province.	Variation from normal during retreating south-west monsoon season October to December. Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation of rainfall from normal.
	"	°	°	"			Inches.	
Indus Valley and North-West Rajputana.	+·005	+2·5	+2·1	+·001	— 4	+0·4	—0·34	—89
East Rajputana, Central India and Gujarat.	+·009	+5·9	+4·0	—·075	—14	—0·6	—1·03	—98
Deccan .	+·025	+6·7	+1·2	—·147	—22	—1·2	—4·25	—96
West-Coast .	+·035	+1·1	—0·2	—·036	— 5	—1·5	—5·16	—45
South India .	+·038	+2·0	—1·0	—·072	— 9	—0·7	—5·19	—31
Extra-Tropical India.	+·017	+2·1	+1·0	—·031	— 8	—0·3	—0·75	—56
Tropical India .	+·032	+1·7	0	—·073	—10	—0·9	—3·52	—36
Whole India .	+·024	+1·9	+0·5	—·050	— 9	—0·6	—2·01	—47

The following summarizes the chief features of the period :—

(1) The mean pressure was above the normal over the whole Indian area. It was most largely in excess in South India, the West Coast, Burma, Bengal, Assam and Orissa, and least in excess in North-Western India. In other words, there was a slight excess in Burma, North-Eastern India and the centre and south of the Peninsula, relatively to Central and North-Western India.

(2) The maximum temperature of the period was in excess in all divisions except Burma Inland, Assam and Bengal and Orissa. The excess was large in the Deccan (+6°·7) and East Rajputana, Central India and Gujarat (+5°·9). The minimum temperature was practically normal or in slight defect except in the Deccan and North-Western and Central India. The excess was greatest in East Rajputana, Central India and Gujarat (+4°·0). The mean temperature of the period was above the normal over the whole area except Burma Inland, Assam, Bengal and Orissa, the excess being greatest in the Deccan (+4°·0), East Rajputana, Central India and Gujarat (+5°·0).

(3) The mean relative and absolute humidities were more or less below the normal over the whole Indian area except the Indus Valley, where the aqueous vapour present in the air was normal in amount. The mean relative humidity was 22 below the normal in the Deccan, 14 below in East Rajputana and Central India, and 12 below in the Upper Sub-Himalayas. The air was hence exceedingly dry in the Deccan, East Rajputana and the Punjab.

(4) The rainfall of the period was in moderate to considerable excess in Upper Burma and Assam and was normal in Bengal. The following gives data in illustration :—

Province.	Rainfall during the retreating south-west monsoon period October to December. Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Upper Burma . .	8·60	5·76	+2·90	+50
Assam . . .	7·34	5·96	+1·38	+23
Bengal	5·50	5·49	+0·01	0

(5) The rainfall was very scanty in Bihar, Chota Nagpur, the North-Western Provinces, Rajputana, Central India, North Bombay, Berar, the Central Provinces and Deccan, areas which usually receive moderate rain during this period, and was practically *nil* in the greater part of the area :—

Area.	Rainfall during the retreating south-west monsoon period October to December. Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inch.	Inches.	Inches.	
Bihar.	0·93	3·01	—2·08	—69
Chota Nagpur	0·83	3·61	—2·78	—77
North-Western Provinces and Oudh.	0·26	1·93	—1·67	—87
Rajputana	0·06	0·58	—0·52	—90
Central India	0·04	2·27	—2·23	—98
Berar	0·02	3·67	—3·65	—99
Central Provinces . . .	0·02	2·76	—2·74	—99
Bombay	0·48	3·59	—3·11	—87
Hyderabad	0·10	4·63	—4·53	—98

(6) The rainfall of the period was also more or less in defect in Malabar, South and Central Madras, Mysore and the Madras coast districts, the deficiency decreasing in percentage amount southwards, as is shown by the following data :—

Division.	Rainfall. Average actual, October to December.	Average normal, October to December.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Malabar	10·76	14·97	—4·21	—28
Madras East Coast, North .	4·97	11·35	—6·38	—56
" " " Central .	14·13	21·70	—7·57	—35
" " " South .	19·35	22·58	—3·23	—14
" South	12·39	16·17	—3·78	—23
" Central	2·48	8·47	—5·99	—71
Mysore	3·59	8·70	—5·11	—59

The larger features of the meteorology of the period were very marked. The most important was the continued drought over by far the greater part of India including North-Western and Central India, the Central Provinces, Deccan, Kathiawar, Gujarat, Konkan, Khandesh and Hyderabad.

The peculiar character of the monsoon currents of 1899 has been already pointed out.

The monsoon current in the Arabian Sea was very feeble in July, August and September, and withdrew from practically the whole sea area at the end of the latter month. The effect of high temperatures is less powerful than that of local condensation and rainfall in reducing pressure or in maintaining low pressure, and hence pressure was in these months in large and increasing excess over the north and centre of the Arabian Sea and the drought area in India.

This increased pressure in the north and centre of the Peninsula was effective in determining the distribution of the retreating south-west monsoon rains.

The Bay current which was vigorous in June and July gradually fell off in August and was below its normal strength in September. During the greater part of October it was feeble, but continued to be determined northwards to Bengal and Burma rather than westwards to the Madras coast and interior. The storms of the period followed the same course, which was, in fact, marked out for them by the lie of the axis of the low pressure area in the Bay.

The continued rise of pressure in Northern India due to the seasonal changes modified those conditions largely, and the area of low pressure was transferred rapidly in the latter part of October to the south of the Bay, thus determining the feeble residual humid current to the Coromandel coast south of Nellore. The rainfall at this stage was comparatively limited, chiefly in consequence of the feebleness of the retreating current, and was hence practically restricted to South Madras and the Coromandel coast districts. A disturbance or storm gave a moderate burst of rain in the coast districts of South Madras in the second week of December. The Bay monsoon current withdrew early in December, and the subsequent rain in Southern India, due to the local north-east winds, was less than usual.

The chief feature of the distribution of pressure during this period was hence the considerable excess of pressure in the Peninsula. This feature became more prominent with the advance of the season.

The following table gives the pressure anomalies of the eleven meteorological provinces of India for the months of September, October, November and December. It illustrates the large excess of pressure in the Peninsula:—

Meteorological Province.	Pressure anomaly.					
	September.	October.	November.	December.	Mean of period October to December.	Mean of period November and December.
	"	"	"	"	"	"
Burma Coast and Bay Islands.	−·018	+·010	+·017	+·008	+·012	+·013
Burma Inland	−·011	+·017	−·019	+·012	+·003	−·004
Assam	−·023	+·019	+·006	−·003	+·007	+·002
Bengal and Orissa	−·014	+·015	+·008	0	+·008	+·004
Gangetic Plain and Chota Nagpur.	−·008	+·005	−·014	−·018	−·009	−·016
Upper Sub-Himalayas	−·014	0	−·024	−·020	−·015	−·022
Indus Valley and North-West Rajputana.	0	+·001	−·029	−·028	−·019	−·029
East Rajputana, Central India and Gujarat.	+·022	−·016	−·018	−·010	−·015	−·014
Deccan	+·028	−·003	−·001	+·009	+·002	+·004
West Coast	+·017	−·016	+·032	+·019	+·012	+·026
South India	−·002	−·011	+·031	+·025	+·015	+·028

The data of the preceding table show a marked tendency to local excess of pressure in the Peninsula during the whole period September to December. It was most marked in the Deccan in September, when the monsoon currents were withdrawing from North-Eastern India, and was transferred slowly southwards to Southern India during the remainder of the period.

The distribution of the rainfall of this period in the Peninsula was opposite in general character to that of the corresponding periods of the years 1896 and 1897.

The pressure conditions of the period were favourable to the determination of the retreating south-west monsoon to the South Madras coast districts and Southern India, whilst they were unfavourable to their diversion to the Deccan and North Madras. They were favourable in Burma, and more especially in Upper Burma. The rains continued until the second week of November in Burma.

The following table shows the character of the rainfall distribution during this period in the Peninsula:—

Division.	Rainfall of period October to December.			
	Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Malabar Coast	10·76	14·97	−4·21	−28
Mysore	3·59	8·70	−5·11	−59
Madras (South Central)	5·40	10·99	−5·59	−51
„ (East Coast, North)	4·97	11·35	−6·38	−56
„ (Central)	2·48	8·47	−5·99	−71
„ (East Coast, Central)	14·13	21·70	−7·57	−35
„ („ „ South)	19·35	22·58	−3·23	−14
„ (South)	12·39	16·17	−3·78	−23

The three following tables give the variations of temperature, humidity, cloud, rainfall and air movement from the normal in the areas of excessive temperature in October, November and December 1899:—

October.

Area.	Variation from normal of: Mean maximum temperature.	Mean minimum temperature.	Mean temperature.	Mean aqueous vapour pressure.	Mean relative humidity.	Mean cloud amount.	Rainfall.	Mean wind velocity expressed as a percentage.	Mean wind steadiness.
	°	°	°	"			Inches.		
Central India	+ 7·5	+1·3	+4·4				−1·55		
Rajputana	+ 4·7	+2·7	+3·7	−·152	−19	−0·8	−0·20	+22	+ 5
Berar	+10·0	+2·8	+6·4	−·256	−34	−1·0	−2·47	+27	+ 6
Central Provinces	+ 7·0	−0·4	+3·3	−·198	−27	−1·1	−1·48	+19	− 5
Bombay Deccan	+ 8·3	+1·6	+5·0	−·101	−15	−1·7	−4·02	+19	+13
Hyderabad	+ 6·8	+1·8	+4·3	−·138	−21	−1·4	−2·81	−10	+25

November.

Area.	Variation from normal of: Mean maximum temperature.	Mean minimum temperature.	Mean temperature.	Mean aqueous vapour pressure.	Mean relative humidity.	Mean cloud amount.	Rainfall.	Mean wind velocity expressed as a percentage.	Mean wind steadiness.
	°	°	°	"			Inches.		
Central India	+6·8	+2·7	+4·8				−0·33		
Rajputana	+4·6	+6·0	+5·3	−·047	−12	−0·9	−0·16	+ 4	−17
Berar	+9·0	+1·4	+5·2	−·198	−30	−1·4	−0·61	− 8	−18
Central Provinces	+7·2	+0·8	+4·0	−·146	−24	−1·5	−0·38	+ 8	−39
Bombay Deccan	+7·0	−0·3	+3·4	−·148	−16	−2·2	−1·44	− 1	− 7
Hyderabad	+6·8	+0·1	+3·5	−·147	−21	−1·9	−1·20	−19	− 7

December.

Area.	Variation from normal of: Mean maximum temperature.	Mean minimum temperature.	Mean temperature.	Mean aqueous vapour pressure.	Mean relative humidity.	Mean cloud amount.	Rainfall.	Mean wind velocity expressed as a percentage.	Mean wind steadiness.
	°	°	°	"			Inch.		
Central India	+5·6	+3·8	+4·7				−0·35		
Rajputana	+4·9	+5·4	+5·2	−·026	−10	−0·1	−0·16	+ 3	− 7
Berar	+8·2	+4·0	+6·1	−·119	−23	+0·1	−0·51	+ 1	− 5
Central Provinces	+6·3	+3·4	+4·9	−·092	−20	0	−0·38	+16	−14
Bombay Deccan	+4·6	+1·1	+2·9	−·132	−16	−1·2	−0·41	+17	+10
Hyderabad	+4·5	+0·9	+2·7	−·107	−17	−1·1	−0·52	− 8	−13

The most remarkable feature of the period in this large area of excessive temperature was the extreme and abnormal unsteadiness of the winds. This is shown by the following data for all second class stations in the area:—

Station or Province.	Wind steadiness. October. Actual.	October. Variation from normal.	November. Actual.	November. Variation from normal.	December. Actual.	December. Variation from normal.
Deesa	20	+ 8	30	−18	18	−32
Nagpur	52	+ 3	30	−30	43	−11
Khandwa	21	−14	3	−49	24	−18
Akola	51	+19	44	− 5	50	− 7
Buldana	42	− 7	22	−30	39	− 4
Hyderabad (Deccan)	58	+25	60	− 7	52	−13
Poona	18	− 1	45	−15	60	+ 6
Belgaum	24	+11	49	−15	81	+14
Deccan	39	+19	57	− 5	72	+ 8
Berar	47	+ 6	33	−18	45	− 5
Central Provinces, West	37	− 5	17	−39	34	−14

The data show that this feature of abnormal unsteadiness of the winds was most strongly exhibited in the month of November, when the day temperature was, on the whole, most largely in excess.

Winds differed very irregularly in strength from the mean of the period, but were on the average of all stations slightly feebler than usual, as is shown below:—

Station.	Wind velocity in miles per diem. November. Actual.	November. Normal.	November. Percentage variation from normal.	December. Actual.	December. Normal.	December. Percentage variation from normal.
Jubbulpore	31	43	−28	31	43	−28
Raipur	34	79	−57	31	62	−50
Nagpur	101	95	+ 6	98	83	+18
Khandwa	75	64	+17	79	62	+27
Akola	84	85	− 1	95	80	+19
Buldana	108	122	−11	118	132	−11
Hyderabad	69	88	−22	73	81	−10
Mean of all stations	71	81	−12	75	78	− 4

The previous data have shown clearly the chief features

of the meteorological conditions of the period accompanying the large excess of temperature, which was a prominent feature of the meteorology of the period. These were—

1st.—The prevalence of light and extremely unsteady winds.

2nd.—Large deficiency in the amount of aqueous vapour present in the air, and also as shown by the daily observations rapid changes in the humidity, accompanying shifts of wind from westerly to easterly direction and *vice versâ*.

3rd.—Large deficiency in the amount of cloud, hence favouring largely increased temperature by day and more rapid reduction of temperature by night than usual.

A further explanation of the conditions accompanying these phases of excessive temperature in Berar and the Central Provinces will be found in page 792 of the Annual Summary for 1898.

The year.—The following gives a tabular summary of the meteorological data of the year 1899 for the eleven meteorological provinces of India:—

Provincial meteorological data for the year.

Provinces.	Bar. variation.	Mean maximum temperature of year.	Variation of year.	Mean minimum temperature of year.	Variation of year.	Mean daily temperature of year.	Variation of year.	Mean daily range.	Absolute range during year.	Mean monthly absolute range.	Rainfall of year.	Normal rainfall of year.	Variation from normal of year.	Percentage variation of rainfall.
	"	°	°	°	°	°	°	°	°	°	Inches.	Inches.	Inches.	
Burma Coast and Bay Islands.	−·002	87·8	+0·1	73·6	+0·9	80·8	+0·7	14·2	36·5	22·4	132·22	139·52	−2·84	− 2
Burma Inland . .	+·005	89·5	−0·7	69·0	+0·4	79·3	−0·2	20·5	60·4	31·4	55·45	46·55	+8·90	+19
Assam . . .	−·002	82·5	−1·0	66·6	−0·6	74·6	−0·8	15·9	56·2	27·6	110·38	104·92	+5·47	+ 5
Bengal and Orissa .	−·001	86·8	0	69·7	0	78·3	0	17·1	59·8	29·1	79·61	72·09	+7·52	+10
Gangetic Plain and Chota Nagpur.	−·003	88·4	+0·5	66·7	0	77·6	+0·2	21·7	70·3	34·8	51·42	44·79	+6·63	+15
Upper Sub-Himalayas .	−·005	89·5	+2·1	64·4	+1·5	77·0	+1·8	25·3	77·6	40·8	18·74	37·82	−18·32	−48
Indus Valley and North-West Rajputana.	−·007	93·3	+2·1	66·2	+1·1	79·7	+1·6	27·1	83·7	42·4	2·79	9·66	−6·87	−71
East Rajputana, Central India and Gujarat.	+·007	92·8	+2·9	68·2	+1·7	80·5	+2·2	24·6	71·3	38 0	13 20	30·12	−16·22	−54
Deccan . . .	+·015	92·4	+2·6	67·6	+0·6	80·0	+1 6	24·8	66·4	37·4	19·65	41·39	−21·62	−52
West Coast . . .	+·016	86·3	+0·5	74·0	+0·1	80·2	+0·3	12·2	32·5	19·4	69·32	103·13	−33·81	−33
South India . . .	+·011	90·2	+1·0	71·2	+0·1	80·7	+0·6	19·0	45·0	29·0	30·65	40 58	−9·93	−24
Mean of whole India from Table I.	+·003	89·0	+0·9	68·8	+0·5	79·0	+0·7	20·2	60·0	32·0	53·04	60·96	−7·37	−12
Mean of whole India from Table II.	+·004	89·5	+1·4	68·4	+0·1	78·1	+0·8	21·1	59·9					

The mean 8 A.M. pressure of the year over the whole of India was practically normal. It was in very slight defect in Northern India, in slight excess in the Peninsula, the excess being greatest in the West Coast (+·016″) and the Deccan (+·015″).

The mean maximum temperature was in excess in all provinces except Burma Inland and Assam, where it was 1° below the normal, and Bengal, where it was normal. The excess averaged 0°·9 for the whole of India, and was greatest in East Rajputana, Central India and Gujarat (+2°·9). It exceeded 2° in the Deccan (+2°·6), the Indus Valley and North-West Rajputana and Upper Sub-Himalayas, each (+2°·1). The mean minimum or night temperature was also in general excess. The excess was less than that in the day temperature and exceeded 1° only in East Rajputana, Central India and Gujarat (+1°·7), Upper Sub-Himalayas (+1°·5) and Indus Valley and North-West Rajputana (+1°·1)—The mean temperature of the whole land area was, according to the data of Table I, 0°·7 above the normal and according to those of Table II 0°·8 in excess. The variations for the year were less than 1° in seven out of the eleven meteorological provinces. The mean temperature of the year was 2°·2 in excess in East Rajputana, Central India and Gujarat, 1°·8 in the Upper Sub-Himalayas and 1°·6 in the Deccan, Indus Valley and North-West Rajputana.

The mean rainfall for the whole of India was in slight defect in the first division of the year, in considerable defect in the fourth and in very large defect in the third. It was, on the other hand, in slight excess in the second or hot weather period. The mean variation for the whole year (taking into consideration the areas represented by the rainfall stations) was —11·14 inches. The deficiency exceeded 50 per cent. in the Indus Valley and West

Rajputana (71 per cent.), East Rajputana (54 per cent.) and the Deccan (52 per cent). The rainfall of the year was very largely in defect over the whole area which usually receives its monsoon rainfall from the Arabian Sea current and in moderate to largish excess over North-Eastern India and Burma. It was between 20 and 71 per cent. below the normal in six meteorological provinces.

The following gives a comparison of the actual mean rainfall of India with the normal mean for each year from 1875 to 1899, determined by Mr. Blanford's method :—

Year.	Mean actual rainfall.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	
1875	43·47	+2·38	+ 6
1876	36·60	−4·49	−11
1877	36·81	−4·28	−10
1878	47·43	+6·34	+15
1879	42·78	+1·69	+ 4
1880	39·53	−1·56	− 4
1881	41·19	+0·10	0
1882	43·73	+2·64	+ 6
1883	40·97	−0·12	0
1884	42·82	+1·73	+ 4
1885	42·14	+1·05	+ 3
1886	44·11	+3·02	+ 7
1887	43·51	+2·42	+ 6
1888	39·55	−1·54	− 4
1889	43·50	+2·41	+ 6
1890	41·77	+0·68	+ 2
1891	37·55	−3·54	− 9
1892	46·18	+5·09	+12
1893	50·16	+9·07	+22
1894	47·56	+6·47	+16
1895	38·90	−2·90	− 7
1896	36·26	−4·83	−12
1897	40·94	−0·15	0
1898	41·52	+0·43	+ 1
1899	29·95	−11·14	−27

The preceding table shows that the precipitation of the year was 11·14 inches or 27 per cent. in defect of the normal, by far the largest deficiency which has occurred since the commencement of systematic meteorological observation in India.

Concluding Remarks.—All the more important features of the meteorology of the year have been stated in the preceding discussion. The following gives a very brief summary of the more interesting and important abnormal features with their probable relations to each other.

The chief feature of the cold weather was the absence of well-marked cyclonic storms and the consequent scanty precipitation of the period in North-Western and Central India. This was, as in four out of the five preceding cold weather periods, a phase of a more general partial failure of the winter rains and snowfall over the large area including Baluchistan, Afghanistan, Persia, Arabia and Asiatic Turkey. It would be interesting to trace fully the relations and conditions accompanying and determining very deficient precipitation during the whole winter or cold weather period from October to March over that large area, but materials are not as yet available for this general discussion.

As is almost invariably the rule, the scanty precipitation of the cold weather accompanied higher temperature and greater dryness of the air in that period, and was followed by more pronounced and exaggerated hot weather conditions than usual. Similar conditions obtained in the years—1879, 1880, 1882, 1890, 1892, 1895, 1896, 1897 and 1898, in all of which the winter rains failed more or less in Western India. Temperature was in large excess in March and May 1899, the air unusually dry, and the skies more free from cloud than usual.

The following gives a comparison of the variations of temperature, humidity and rainfall for the hot weather periods of these years :—

Year.	Mean variation during hot weather in Extra-Tropical India of			
	Temperature.	Humidity.	Rainfall.	Percentage variation from normal.
	°		Inches.	
1879	+1·9	−6	−1·17	−22
1880	+1·9	−1	−0·62	−11
1882	+0·1	−3	−0·35	− 7
1890	+0·7	−1	−0·60	−12
1892	+3·1	−5	−0·37	− 8
1895	+0·6	+1	−0·64	−13
1896	+2·3	−6	−1·01	−21
1897	+0·3	−2	−0·30	− 7
1898	+1·5	−5	−1·53	−33
1899	+1·3	−1	+0·44	+10

The character and distribution of the cold weather precipitation can be usually foretold in the beginning of December from the meteorological conditions of the months of October and November and the general character of the previous south-west monsoon rains. The more important principles or rules have been stated in

the memoir on the "Cold Weather Storms of Northern India". The forecast of the cold weather precipitation of 1898-99 was in approximate accordance with facts and hence a confirmation of the theory upon which these forecasts are based.

In hot weather seasons following cold weather periods in which the precipitation in North-Western India has been scanty and below the normal, there frequently occurs heavier rain than usual in North and East Bengal and Assam. There is also very occasionally a very general burst of rain due to a widely spread disturbance giving rise to numerous and prolonged series of thunderstorms.

The years 1879, 1880, 1881, 1882, 1890, 1892, 1895, 1896, 1897 and 1898, were all characterized by scanty winter precipitation and more intense hot weather than usual. The following gives the percentage variation of rainfall from the normal in the hot weather seasons of these years in Assam and Bengal:—

Year.	Assam. Percentage variation of hot weather rainfall from normal.	East Bengal. Percentage variation of hot weather rainfall from normal.	North Bengal. Percentage variation of hot weather rainfall from normal.	South-West Bengal. Percentage variation of hot weather rainfall from normal.
1879	− 3	−55	−10	−68
1880	−38	+15	+ 7	+ 6
1881	+16	+72	+30	+31
1882	− 4	+ 2	−21	− 8
1890	−15	+ 1	−10	−23
1892	+53	+16	+52	−22
1895	− 4	+19	− 6	−17
1896	+ 9	− 2	+11	−29
1897	− 6	−22	+ 5	− 6
1898	−51	−43	−20	−30
1899	− 1	+29	−10	+ 5

The increased rainfall in North and East Bengal and Cachar is evidently a result of the greater intensity of the hot weather conditions. The increasing heat in the interior in March and April accompanies an increasing indraught from the north of the Bay into Bengal, the intensity of which depends upon the intensity of the hot weather conditions in the interior. In the hot weather of 1899 this indraught of moist humid winds was more vigorous than usual and the forced ascent of these winds caused by the hills and mountain ranges of East Bengal and Assam gave rise to unusually frequent series of thunderstorms and nor'-westers and very heavy thunder-showers.

The second feature of a heavy general burst of rainfall over nearly the whole of India for a short period during hot weathers following dry cold weathers was very marked in April 1890 and May 1886.

The cause of this rainfall is similar to that of the increased rainfall in Bengal. The abnormal intensity of the hot weather conditions gives rise to a vigorous indraught from the neighbouring Indian Seas. The various actions connected with this occasionally lead to a period of very general disturbance characterized by numerous thunderstorms over much larger areas than usual.

The meteorology of the south-west monsoon period of 1899 is of exceptional interest on account of the remarkable failure of the Bombay monsoon as a rain-giving current, the consequent drought causing the most severe famine of the past 200 years at least.

The conditions in India were undoubtedly favourable to a normal monsoon as a cold weather of scanty snowfall had been followed by a hot weather of greater intensity than usual. There were no abnormal pressure features likely to affect to any large extent the distribution of the rainfall.

The monsoon currents advanced about the normal time and in the manner anticipated in the forecast and extended rapidly into the interior and gave unusually favourable and abundant rain over nearly the whole of North-Western India in June. A rapid change occurred in the last week of the month which completely transformed the character of the Arabian Sea current as a rain-giving current.

During the remainder of the season it gave practically no rain to the northern parts of the area usually depending on it, including Kathiawar, Gujarat, Rajputana West, Central India West, Berar, Khandesh and the Central Provinces West, and only light occasional showers of little agricultural value in the Deccan and Konkan.

The winds on the Konkan coast were considerably weaker than usual (about 20 per cent.) and were slightly weaker in the Arabian Sea. But neither in strength, nor in direction were they modified to such an extent as to explain the variation in the current from its normal character as a rain-distributing current.

The available data indicate that the abnormal character of the Arabian Sea monsoon current was due to the unusual determination of the south-east trades current to South-East and Central Africa. This is shown:—

(1) By the abnormal rainfall in South Africa from May to August.

(2) By the increased easting of the winds in the western half of the south-east trades region and more especially in the equatorial belt during July and August.

The following extract from a letter received from Mr. Hutchins, Conservator of Forests, Cape Colony, shows clearly the abnormally heavy and untimely rainfall in South Africa from May to August, *i.e.*, during south-

west monsoon period when fine clear dry cool weather as a rule prevails continuously in that area:—

"The first part of the south-east rains this year (1899) were weak or normal, but in February, that is to say, when they were about at their maximum for the season, heavy general rain occurred. The rains were more heavy and more general than have been known for some years past, in fact the drought which has prevailed more or less over the whole area of south-east rainfall in South Africa for several years past, has now completely broken up. Then at the end of February followed weather such as is believed not to have occurred for at least a quarter of a century. The heavy rains of February continued at intervals during the remainder of summer and autumn (end of June) and apparently set up conditions which have brought thunderstorms and winter rains to immense tracts, where for many years past only summer rains have prevailed. Normally the Karoo, the Free State and the Transvaal are watered almost exclusively by summer rains. This year winter rains have prevailed right through the Karoo, across the Orange River and far into the Kalaharu Desert."

The data given in page 798 show the easterly deviation of the winds at Zanzibar and the Seychelles. It was shown more clearly by the data of the logs of ships in the western half of the equatorial belt.

There hence appear to have been an undue determination of the south-east trades westwards to the whole of South and East Africa, south of the equator. This determination, so far as can be judged, only slightly modified the flow from the Indian Ocean across the eastern half of the equatorial belt into the Bay of Bengal and that portion of the south-west monsoon current hence differed little in character from the normal. The flow across the western half of the equatorial belt was, on the other hand, much less than usual. Consequently the air current over the Arabian Sea from July to September was chiefly local in character and origin, consisting of a flow from the Arabian Sea to India determined by the pressure conditions in these two areas and increased and supplemented by a diminished flow across the western half of the equatorial belt. The gradients over these areas were somewhat less than usual but were remarkably steady during the period and hence the air movement in the Arabian Sea and Western India although not so strong as usual, was unusually steady. The monsoon currents in these two areas therefore depended for their stores of aqueous vapour and hence for their rain-giving capacity chiefly on local evaporation over the Arabian Sea and to a very much less extent than usual upon the supplies brought across the equator into the Arabian Sea from the south-east trades region.

The data discussed above have shown that the air movement in the western half of the equatorial belt differed chiefly in direction and not in strength from that which usually obtains. It is probable that the monsoon flow was local rather than general in character and of oceanic origin and hence that the monsoon currents in the Arabian Sea and Western India would be of less elevation than usual. Mr. Blanford has made in his "Vade Mecum" an approximate calculation of the normal height of the monsoon current in India. I purpose shortly to apply this or some similar method to the calculation of the height of the monsoon current in India in 1899 and of previous years and thus ascertain whether there are any variations from year to year in this factor which will help to explain some of the peculiarities of the south-west monsoons of the past eight or nine years.

The preceding remarks have suggested the only explanation I can give as to the remarkable failure of the Arabian Sea monsoon current as a rain distributing current from July to September 1899. The marine data indicate that there was no heavy rainfall at sea throughout the season and that the current was as abnormal in its dryness and comparative absence of cloud over the Arabian Sea as in Western India. *The available data indicate that this was due to the larger determination of the south-east trades winds to South-East Africa and the consequent small volume of the air movement from the south-east trades region to the Arabian Sea. The air movement over that area was hence chiefly of local origin and its supplies of aqueous vapour chiefly due, not to influx from the Indian Ocean, but to the small and limited evaporation in the Arabian Sea. It is also probable that the current over the Arabian Sea was of much less elevation than usual.*

This is confirmed by the almost complete failure of the rains over the greater part of the area dependent on the Bombay current after the first burst of monsoon winds into Western India had exhausted itself. It is further confirmed by the remarkable absence of stormy cyclonic weather in the Arabian Sea during the whole monsoon period.

The effect of the drought conditions on pressure was noteworthy. The large decrease of pressure in India from February or March to April was undoubtedly a direct thermal action—a result of the air movements set up by the increasing heat of the interior of India. This effect reached its maximum as usual in the latter part of May or the beginning of June. The low pressure established in that period antecedent to the south-west monsoon in normal years continues with little change until the latter part of August or the beginning of September, during which period temperature over by far the greater part of India is very uniform and little above the temperature of the adjacent seas. The low pressure in India during that period is chiefly maintained by actions accompanying the general monsoon rainfall over India. The release of energy during condensation preceding and accompanying rainfall is vigorous and rapid. Hence it might be anticipated that the diminution of pressure due to this action,

an indirect result of solar radiation, would be greater than that due to the direct action of solar radiation and abnormal heat and drought in India. Hence in such a season as the south-west monsoon of 1899 there would be an excess of pressure relatively to the normal on the mean of the Indian area and this excess of pressure would be greatest in the regions in which the drought was most severe. The following data, a summary of the data in Table I, will illustrate this :—

Province.	Mean variation from normal July to September 1899.	Mean variation of year 1899.
	"	"
Punjab	−·004	−·007
North-Western Provinces	+·002	−·006
Bihar	−·013	−·006
Chota-Nagpur	+·014	+·004
Bengal	−·008	−·002
Burma	−·015	0
Sind	+·032	+·002
Rajputana	+·046	+·007
Gujarat	+·064	+·011
Central India	+·039	+·008
Central Provinces	+·043	+·015
Berar	+·058	+·026
Deccan	+·041	+·015
Bombay Coast	+·041	+·016
Madras Coast	+·019	+·013

Whether this excess of pressure was due to and represented an actual excess in the amount or mass of air over the drought areas or whether it represented and was due to a smaller upward movement than usual or to an actual downward movement cannot be fully proved. It was, however, almost certainly not the latter as the excess was as marked in the hot drought areas of large excess of temperature in Western India as in the centre and north of the Arabian Sea, where the chief result of the decreased cloud was undoubtedly increased evaporation and not higher temperature. It is, on the whole, most probable that the increased pressure was in part due to increased mass of air over the drought area and in part to diminished vertical movement or uptake. The abnormal pressure features in the Arabian Sea and Western India, however, appear to me to be one of the results or consequences of the abnormal character of the monsoon currents and of the consequent drought and not to be a cause and still less the chief cause of either. Mr. Dallas in his memoir "On the Failure of the South-West Monsoon Rains in 1899" has worked out fully the abnormal pressure conditions in the Arabian Sea and Western India, and it appears to me that these are only what might be expected as a consequence of the abnormal determination of the south-east trades to South-East Africa and of the consequent drought in Western India, but that they throw little or no light on the failure of the south-east trades to feed into the south-west monsoon currents of the Arabian Sea and to give them their special abnormal characteristics as rain distributing currents last year.

The effect of these abnormal pressure conditions on the storm tracks of the period was striking. The tendency of the storms of the rains which form in the north-west of the Bay or in Bengal to move westwards along the trough of low pressure, has been frequently pointed out in these annual summaries. In consequence of the excess of pressure in North-Western and Western India, the trough of low pressure ran in a north-west to north direction generally from the Orissa Coast from July to September and hence most of the storms of the period followed a much more northerly course than usual and in some cases, after advancing along the usual west-north-west track through the eastern districts of the Central Provinces, recurved very rapidly to north and passed into Bihar and the eastern districts of the North-Western Provinces. A comparison of the storm track chart of the year (Plate VI) with those for the past two years will show at once this noteworthy feature of the meteorology of the year.

The abnormal character of the air movement in the south-east trades and south-west monsoon region explains fully the drought in North-Western India and Western India and the accompanying meteorological conditions of increased pressure, abnormally high temperature, diminished aqueous vapour pressure, and humidity and amount of cloud during the period July to September 1899.

The Bay current was of normal strength and character in June and contributed towards the general and abundant rainfall of that month in Northern India. This was of course due to the generally favourable pressure and other conditions in North-Western India. The establishment of increased pressure due to absence of rain in North-Western and Western India in the next three months determined the Bay current chiefly to North-Eastern India and Burma. Rainfall was very abundant in July in these areas and was in general excess. The area of excess was smaller in extent in August and was restricted to Assam, East and North Bengal, North Bihar and Burma in September.

The data hence indicate that the Bay current fell off more rapidly in strength than is usually the case in August and was feebler than usual in September.

North-Eastern India and Burma, on the whole, received favourable rain in October, chiefly due to the determination of the storms of the period northwards instead of

westwards, a result or effect of the excess of pressure in the Deccan and North-Western India in modifying the tracks of storms similar to the corresponding effect during the months of July, August and September already referred to as determining or modifying the set of the monsoon currents to Burma and East Bengal.

The weakness of the retreating monsoon current was further shown by its early withdrawal in November from the Bay.

The meteorology of the period from October to December was hence determined chiefly by

(1) The weakness of the retreating south-west monsoon current in the Bay.

(2) Its early withdrawal from the Bay.

(3) Its determination in October chiefly to Burma and Bengal and in November to Burma, Assam and South India (the result of the abnormal pressure conditions).

The rains of the retreating south-west monsoon hence almost completely failed over the greater part of the Peninsula including Berar, the Central Provinces, Hyderabad and the Bombay and Madras Deccan—thus intensifying the drought which had prevailed in these areas during the previous three months.

Bengal and Burma, on the other hand, received favourable rain and the season in Upper Burma was the most favourable since its conquest. Southern India (chiefly the coast districts) obtained moderately abundant rain. Over nearly the whole of the interior of India including North-Western and Central India and the North Deccan the period was remarkably dry, skies exceptionally free from cloud and rainfall *nil*.

The most noteworthy feature of this period was the extraordinarily high temperature which prevailed in November and December in a broad belt of country stretching across the head of the Peninsula and including North Bombay, Khandesh, Berar, the Central Provinces and Central India. The westerly winds in North-Eastern India were weaker than usual during the period, whilst the prevailing easterly winds in the Deccan were stronger than the normal. The intermediate belt formed an area of light variable winds and calms. Frequent shifts of wind between east and west occurred accompanied with large changes in the amount of aqueous vapour pressure in the air and also in the amount of cloud. The combination of these conditions, *viz.*, (1) the prevalence of light variable winds alternating between west and east, (2) large changes of the amount of aqueous vapour present in the air and great deficiency in the amount of aqueous vapour, (3) small and deficient cloud which favoured unusually and abnormally high day temperature and to a considerably less degree higher night temperature than usual. These conditions were very marked during the whole period. Similar phases of excessive temperature occurred in the months of November and December in the years 1898, 1896, 1890 and 1877 and the conditions were similar in these years to those prevailing in the hot period in 1899.

Appendix.

The following is a brief statement of the hailstorms which occurred during the year 1899 in the provinces of Sind, the Punjab, the North-Western Provinces, the Central Provinces, Assam and Bombay, the reports of which were received too late to be given in the storm sections in the Monthly Weather Reviews of the year :—

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
1899.	SIND.						
4th May.	Sehwan and Dadus Talukas.	About sunset.	15 minutes.	W	Half an inch in diameter.	Moderately severe.	No damage.
	PUNJAB.						
13th Mar.	224 square miles in the Gujarat and Phalia tahsils of the Gujarat district.			E		Moderately severe.	Damaged the crops slightly in 26 villages.
	N.-W. P.						
13th Apl.	About 5 miles in Garhwal district.		1½ hours.	SW	Walnut.	Moderately severe.	Some slight damage to standing crops. A large number of persons injured severely, of whom seventeen died of their injuries.
	CENTRAL PROVINCES.						
6th Feb.	304 square miles in the Seoni district.			SW		Feeble.	Not much damage.
7th ,,	730 square miles in the Lakhnadon Tahsil of the Seoni district.		30 minutes.	W	Ber fruit.	Moderately severe.	Damaged crops more or less in 39 villages.
10th ,,	240 square miles in the Khorai and Saugor Tahsils in the Saugor district.	5-30 P.M.	30 minutes.	NW	Small mangoes.	Severe.	Destroyed crops over about 10,000 acres. Two boys were killed.
10th ,,	About 112 square miles in the Sohagpur Tahsil of the Hoshangabad district.		2 hours.	W		Moderate.	No severe damage caused.
22nd Apl.	125 square miles in the Sohagpur Tahsil of the Hoshangabad district.	5 P.M.	1 hour.	W	Grain.	Feeble.	Damaged fruit trees slightly.

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
1899.	ASSAM.						
25th Feb.	About 2 square miles in the Sylhet district.		10 minutes.	NW	About 2 tolas.	Severe.	No damage.
4th Mar.	About 2 square miles in the Sylhet district.		About 15 minutes.	NW	About 3 tolas.	Slight.	Mustard and paddy crops damaged very slightly.
8th ,,	About 4 square miles in the Sylhet district.		About 4 minutes.	S	About a chhattak.	Slight.	
9th ,,	About 3 square miles in the Karimganj subdistrict of the Sylhet district.		2 or 3 minutes.	NE	Small.	Slight.	No damage.
9th ,,	About 2 miles in the Sylhet district.		2 or 3 minutes.	NW	Small.	Slight.	No damage.
9th ,,	Almost throughout the jurisdiction of Motiganj in the South Sylhet sub-division.		20 minutes.	N	Round and oval, weighing about 2 tolas.	Moderate.	Bora paddy, chilly and linseed crops damaged.
10th ,,	About 4 square miles in the Sylhet district.		7 or 8 minutes.	W	Big.	Moderate.	Tea leaves, linseed, etc., damaged somewhat.
10th ,,	About 4 miles in the Sylhet district.		5 or 6 minutes.	NW	Small.	Moderate.	Vegetable damaged a little.
10th ,,	Karimganj P. S. of the Sylhet district.		5 or 6 minutes.	NW	Small.	Slight.	No damage.
27th ,,	Throughout the jurisdiction of Maubi Bazar in the South Sylhet sub-division.		15 minutes.	W	Round.	Slight.	No damage.
27th ,,	Throughout the jurisdiction of Hingajiya in the South Sylhet sub-division.		10 or 12 minutes.	NW	Round, weighing about 2 or 3 tolas.	Slight	No damage.
27th ,,	39 square miles in the Habeganj sub-district.		15 minutes.	N	Potatoe?	Slight.	Bora crop damaged slightly.
6th April	About 4 square miles in the Sylhet district.		10 to 12 minutes.	NW	½ a tola.	Severe?	Vegetables damaged slightly.

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
1899							
April	One mile in the sub-district of North Sylhet.		15 minutes.	NW	½ a tola.	Slight.	No damage.
8th ,,	About 5 square miles in the Sylhet district.		4 minutes	N	About 2 tolas.	Severe.	Ditto.
8th ,,	About 2 square miles in the Sylhet district.		About 5 minutes.	N	About 1½ seers?	Slight.	No damage.
8th ,,	About 3 square miles in the Sylhet district.		About ½ an hour.	NE	About 1 powah.	Slight.	Damaged bora crops to the extent of nearly 2 annas.
8th ,,	About 4 square miles in the Sylhet district.		About 4 minutes.	S	About 2 tolas.	Severe.	No damage.
8th ,,	About 2 square miles in the Sylhet district.		About 15 minutes.	N	About a seer?	Severe.	Bora crops largely damaged.
8th ,,	Almost throughout the jurisdiction of Hingajiya in the South Sylhet sub-division.		About 15 or 20 minutes.	S	7 tolas.	Moderate.	No damage.
8th ,,	Almost throughout the jurisdiction of Rajnagar in the South Sylhet sub-division.		5 minutes	NW	About ½ kachcha.	Slight.	Betel and chilly crops slightly damaged.
8th ,,	Almost throughout the jurisdiction of Motiganj in the South Sylhet sub-division.		15 minutes.	NW	2½ tolas.	Moderate.	Bora paddy and chilly, etc., crops damaged.
8th ,,	64 square miles in the Habeganj sub-district.		10 minutes.	N	Potato.	Slight.	Bora crops slightly damaged.
9th ,,	A part of the sub-district of North Sylhet.		15 minutes.	NW	1 tola.	Moderate.	Damaged crops to the extent of 2 annas.
15th ,,	A part of the sub-district of North Sylhet.		10 minutes.	S	½ a tola	Slight.	No damage.
18th ,,	Almost throughout the jurisdiction of Hingajiya, especially at Sagarnal in the South Sylhet sub-division.		15 or 20 minutes.	N and S	About 2 tolas.	Severe.	Damaged several houses.
20th ,,	About 9 square miles in the Sylhet district.		About 25 minutes.	W	1 to 4 chhattaks.	Severe.	Houses, vegetables, etc., damaged.

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
1899.	BOMBAY. DHARWAR DISTRICT.						
28th Mar.	Hubli-Gadag Road.		5 mts.	SE			
28th ,,	Hubli-Sholapur Road, mile 1 and 2.		5 mts.	SE			
28th ,,	Poona-Bangalore Road, mile 270 to 276.		10 mts.	SE			
28th ,,	Hubli-Kumta, Road, mile 26 and 27.		10 mts.	NE			
29th ,,	Hubli-Sholapur Road, mile 1 and 2.		6 mts.	SE			
29th ,,	Poona-Bangalore Road, mile 251 to 256.		2 mts.	NE			
29th ,,	Dharwar-Halyal Road, mile 1 to 8.		2 mts.	NE			
29th ,,	Dharwar-Tadas Road, up Yarikop.		2 mts.	NE			
29th ,,	Dharwar-Sondatti Road, 1 to 4 miles.		2 mts.	NE	No information.	No information.	No information.
29th ,,	Dharwar Station Road.		2 mts.	NE			
29th ,,	Ranibenur Taluka.		5 mts.	NE			
29th ,,	Poona-Bangalore Road, mile 272 to 277.		5 mts.	SE			
29th ,,	Hubli-Kumta Road, mile 26 and 27.		10 mts.	NE			
2nd Apl.	Poona-Bangalore Road, mile 267 to 279.		5 mts.	SE			
2nd ,,	Hubli-Gadag Road, mile 103, 104, 107 to 109.	Evening	10 mts.	SE			
2nd ,,	Hubli-Konur Road, mile 1 to 5.	,,	Ditto	SE			
8th ,,	Hubli-Gadag Road, mile 100 to 106.		8 mts.	SE			
	Hubli-Konur Road, mile 1 to 6.						
9th ,,	Dharwar . .		1 mt.	NE			
14th ,,	Hubli-Gadag Road, mile 103 to 108.		10 mts.	SE			
	Hubli-Konur Road, mile 1 to 4.						
17th May	Nargund . .		5 mts.	E			

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
1899.	BOMBAY.						
	KANARA DISTRICT.						
28th Feb.	Reseolly to Tregaum in the Haliyal Taluka.	About 3 P.M.			½″ to ¾″ diameter	Not severe	No information.
30th Mar.	Reseolly to Hasgi near Haliyal.	About 3 P.M.			½″ to ¾″ diameter	Do.	
4th April	Miles 61 and 62 of Belgaum-Karwar Road and at Kumbarwada.				½″ to 1″ diameter	Moderately severe.	
6th ,,	Yellapur Town.				Pea	Do.	
13th ,,	About 5 miles round about Yellapur except Kirwati side and in miles 10 and 11 of Yellapur-Baokapur Road.				½″ to ¾″ diameter	Do.	
24th ,,	Keseoli, Aloor, Ajgad, Yedoga on Haliyal-Supa Road.				½″ to ¾″ diameter	Not severe.	
9th May	Berchi from mile 7 to 14 on Haliyal-Supa Road.				Betel-nut.	Do.	

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
	BOMBAY BIJAPUR DISTRICT.						
1899. 28th Mar.	Near Kerur in the Badami Taluka.	Between 7-30 and 8 P.M.			¾ inch		No information.
	SATARA DISTRICT.						
26th Mar.	Islampur in Karad sub-division.				Small.		
,,	Karad-Chiplain Road, mile No. 11 to 16.				Small.		
30th April	Mahableshwar side in Panchgani sub-division.			SW			
18th May	Nawari, near the 22 mile of Karad-Bijapur Road of Maini sub-division.				About ½ inch in diameter		
20th ,,	Mahuli in the 28 mile of Tasgaon-Pingli-Road of Maini sub-division.						
22nd ,,	Chitali on the 36 mile of Matharpeith-Pandherpur Road of Maini sub-division.						

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of Air.									
				Mean actual pressure (reduced to 32°).	Variation from normals.	Mean pressure reduced to sea level and to constant gravity (45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
	I.—Burma Coast and Bay Islands		...	...	−·002	...	...	...	...	...	...	87·8	+0·3	73·6	+0·9	80·8	+0·7	14·2	...	...	36·5	22·4
1	Tenasserim and Bay Islands.	Car Nicobar	25	29·884		29·837	29·997	29·678	·319	·149	80·5	86·6		76·6		81·6		10·0	92·6	67·1	25·5	17·0
		Port Blair	61	29·865		29·857	30·032	29·618	·414	·158	80·0	87·2		77·2		82·2		10·0	95·4	69·4	26·0	16·3
		Mergui	96	29·839	−·001	29·858	30·033	29·572	·461	·158	77·7	87·5	+0·1	73·0	+2·4	80·3	+1·3	14·5	95·1	62·3	32·8	22·4
		Tavoy	26	29·910		29·827	30·098	29·629	·469	·163	75·9	88·0	+0·4	71·4	+0·7	79·7	+0·6	16·6	95·7	57·0	38·7	25·3
		Moulmein	94	29·828		29·840	30·046	29·501	·545	·199	76·5	88·2	+0·2	72·4	+0·3	80·3	+0·3	15·8	99·4	59·4	40·0	24·7
2	Lower Burma	Rangoon	41	29·875	−·004	29·853	30·104	29·515	·589	·200	75·7	89·1	−0·2	72·2	?	80·7	?	16·9	102·1	58·2	43·9	25·4
		Bassein	27	29·886	+·002	29·148	30·118	29·511	·607	·209	76·1	87·7	−0·2	72·9	+1·0	80·3	+0·4	14·8	98·7	57·3	42·4	23·2
		Diamond Island	41	29·873	+·002	29·849	30·078	29·506	·572	·196	79·8	85·1	?	77·0	?	81·1	?	8·1	91·1	69·2	21·9	14·9
5	Arakan	Akyab	20	29·853	−·007	29·831	30·120	29·499	·621	·212	75·0	85·4	−0·8									
3	Central Burma	Toungoo	183	29·719	−·001	29·847	29·961	29·389	·592	·205	74·9	91·1	+1·2	70·1	+0·1	80·6	+0·7	21·0	105·7	48·6	57·1	31·7
	II.—Burma Inland		...	...	+·005	...	...	...	...	...	...	89·5	−0·7	69·0	+0·4	79·3	−0·2	20·5	...	...	60·4	31·4
3	Central Burma	Thayetmyo	134	29·759	−·001	29·837	30·018	29·420	·598	·212	75·9	91·5	−0·2	69·9	+0·3	80·7	+0·2	21·6	106·1	44·2	61·9	32·0
4	Upper Burma	Minbu	165	29·724	−·002	29·835	30·001	29·374	·627	·218	75·9	91·0	−1·1	71·2	+0·3	81·1	−0·2	19·8	107·1	49·0	58·1	30·0
		Yamethin	657	29·233		29·249	29·429	28·931	·553	·207	74·7	91·2	−0·7	69·0	+0·3	80·1	−0·2	22·2	107·0	45·2	61·8	33·7
		Mandalay	250	29·538	+·008	29·540	29·914	29·318	·596	·236	76·9	91·7	−0·6	71·4	+0·6	84·6	0	20·3	108·1	50·7	57·4	31·2
		Kindat	377	29·505		29·545	29·826	29·113	·733	·258	71·0	85·6	−0·8	67·0	+0·1	76·3	−0·4	18·6	105·7	43·3	62·4	29·6
		Bhamo	381	29·518	+·014	29·464	29·831	29·135	·696	·243	69·7	85·8	−0·7	65·2	+0·2	75·5	−0·3	20·6	104·1	43·2	60·9	31·7
(a)½	Burma Hill Stations.	Maymyo			Not	recorded.					65·5	76·8		52·8		64·3		24·0	94·0	27·4	66·6	33·9
		Taunggyi			Not	recorded.					64·4	75·9		55·9		65·9		20·0	101·1	31·6	69·5	33·1
		Lashio		27·090	−·029		27·335	26·798	·537	·219	66·4	82·6	+0·8	50·5	+1·0	71·6	+0·9	22·1	99·5	40·1	59·4	33·4
	III.—Assam		...	...	−·002	...	...	...	...	...	...	82·5	−1·0	66·6	−0·6	74·6	−0·8	15·9	...	...	56·2	27·6
7	Surma	Silchar	104	29·793	+·007	29·852	30·094	29·385	·709	·249	72·0	85·6	−0·1	67·1	−0·3	76·4	−0·2	18·5	100·6	42·0	58·6	30·6
9	Brahmaputra	Sibsagar	333	29·563	−·006	29·862	29·888	29·182	·706	·253	68·8	80·2	−1·3	65·1	−0·9	72·7	−1·4	15·1	94·2	40·5	54·2	26·5
		Dhubri	115	29·747	−·008	29·819	30·083	29·352	·731	·258	71·3	81·8	−1·2	67·6	−0·6	74·7	−0·9	14·2	100·7	44·8	55·9	25·7
	IV.—Bengal and Orissa		...	...	−·001	...	...	...	...	...	...	86·8	0	69·7	0	78·3	0	17·1	...	...	59·8	29·1
6	East Bengal	Chittagong	87	29·782	−·018	29·818	30·004	29·391	·673	·223	74·2	84·3	0	69·0	−0·2	76·7	−0·1	15·3	94·7	46·6	48·1	25·8
		Noakhali	43	29·823		29·813	30·110	29·434	·676	·236	73·6	85·0*		67·3		77·0*		16·0*	96·7	40·0	56·7	27·4
		Comilla	36	29·833		29·818	30·116	29·445	·671	·231	74·9	85·9		68·5		77·2		17·4	98·3	43·1	55·2	27·9
		Sirajganj	49	29·794		29·794	30·121	29·401	·720	·251	72·6	85·3		71·7†		79·5†		15·5†	107·8	48·9	58·9	23·8
		Narayanganj	26	29·834	−·004	29·808	30·135	29·428	·707	·256	75·0	85·1	−1·4	70·5	+0·2	77·8	−0·6	14·6	98·6	46·2	52·4	25·2
		Barisal	13	29·847	+·003	29·806	30·158	29·426	·732	·257	76·1	85·8	+0·5	70·3	−0·1	78·1	+0·2	15·5	98·3	44·2	54·1	27·0
		Mymensingh	59	29·802	−·005	29·814	30·115	29·142	·673	·248	73·0	83·2	−1·2									
10	Deltaic Bengal	Faridpur	46	29·815		29·810	30·125	29·362	·763	·261	73·4	85·5		68·7		77·1		16·9	102·8	43·0	59·8	28·6
		Jessore	33	29·821	−·003	29·801	30·166	29·394	·772	·265	74·9	87·8	−0·8	69·5	−0·4	78·3	−0·6	17·5	102·0	42·1	64·9	30·0
		Calcutta	21	29·833	0	29·800	30·153	29·394	·799	·262	75·7	88·1	+1·6	70·3	−0·2	79·2	+0·7	17·8	105·4	44·2	61·2	29·0
		Saugor Island	25	29·824	−·001	29·793	30·168	29·430	·738	·255	77·4	85·6	+0·1	72·4	−0·5	79·5	−0·2	12·2	95·9	46·0	49·9	23·6
		Krishnagar	47	29·808		29·805	30·167	29·379	·788	·263	75·1	87·8		68·5		78·2		19·3	109·2	41·3	67·9	32·2
		Midnapore	149	29·699		29·797	30·054	29·327	·727	·245	75·7	90·5		70·1		80·3		20·5	112·4	45·1	67·3	34·2
11	Central Bengal	Bankura	236	29·520		29·774	29·873	29·119	·754	·246	74·7	89·7		69·7		79·7		20·0	112·1	45·8	66·3	33·6
		Raniganj	334	29·505		29·735	29·852	29·120	·732	·246	73·6	89·7		68·7		79·2		21·0	113·3	44·2	69·1	34·7

* Mean of 11 months.

† Mean of 10 months.

I.

at 214 stations in India, Burma, etc., in the year 1899.

Wind direction. Number of winds from: Calm.	N	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Wind velocity. Mean velocity in miles per hour.	Normal.	Percentage variations.	Hygrometry, 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of district.
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	132·22	139·52	−2·84	...	**I.—Burma Coast and Bay Islands.**		
33	35	62	10	35	43	41	2	6	2·5			·84	·872	8·2	140			92·05			3·43	Car Nicobar	Tenasserim and Bay Islands.	1
12	33	45	15	22	12	69	95	61	8·0	7·4	+8	·86	·889	6·0	129			87·01	116·98	−29·97	2·56	Port Blair		
312	17	9	2	1	7	7		9	2·0	1·8	+22	·89	·833	4·0	152			135·40	168·46	−33·06	3·74	Mergui.		
344	1	1	3			8	2	5	0·9			·89	·811	3·5	158			222·51	198·57	+23·94	7·05	Tavoy.		
	13	66	65	63	76	33	21	23	2·8	2·8	0	·87	·797	5·0	144	137·55	+6·45	163·98	181·24	−17·26	6·80	Moulmein.		
1	25	50	29	23	59	105	61	12	4·1	4·4	− 7	·88	·720	5·2	117	116·89	+0·11	103·97	95·27	+ 8·70	5·90	Rangoon	Lower Burma	2
64	19	46	17	46	39	33	23	73	4·6	3·8	+21	·88	·812	4·5	127	131·54	−4·54	118·14	109·55	+ 8·59	3·90	Bassein.		
32	45	65	23	15	21	39	36	38	9·0	7·1	+27	·80	·824	5·0	93	120·44	−22·44	82·40	118·66	−34·26	7·11	Diamond Island.		
16	110	66	74	45	36	10	3	4	2·3	3·7	−38	·90	·808	4·8	151	120·09	+30·91	226·18	187·08	+39·10	8·11	Akyab	Arakan.	5
119	36	7	2	117	49	8	3	24	3·4	3·0	+13	·85	·754	5·0	115	112·53	+2·37	88·53	79·77	+ 8·76	4·30	Toungoo.	Central Burma.	3
...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...	...	55·45	46·55	+8·90	...	**II.—Burma Inland.**		
1	26	35	24	38	100	78	51	12	4·3	5·1	− 6	78	·713	3·7	71	76·08	− 5·08	34·07	37·67	− 3·60	3·12	Thayetmyo	Central Burma.	3
33	17	3	4	132	78	11	13	74	11·8			79	·727	4·6	56			41·23	28·06	+13·17	7·90	Minbu	Upper Burma.	4
85	23	4		115	98	1		39	5·7			81	·715	3·8	73			43·15	34·46	+ 8·69	5·90	Yamethin.		
141	26	14	8	32	86	38	5	11	4·4			82	·773	3·7	56			41·61	33·73	+ 7·88	5·73	Mandalay.		
214	53	18	14	9	16	8	17	16	1·4			90	·708	5·6	101			82·22	71·58	+10·64	4·73	Kindat.		
288	10	34	5	2		14	2	10	2·1			89	·676	6·0	113			90·39	73·80	+16·59	6·75	Bhamo.		
34	9	47	6	22	41	159	33	18				80	·518		?			?			7	Maymyo	Burma Hill States.	(a)4
12	1	4	2	54	176	102	4	3				78	·486	4·3	117			67·98	64·33	+ 3·65	3·13	Tanuggyi.§		
		Not	recorded									84	·561	6·3	109			85·30	58·02	+27·28	6·67	Lashio.		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	110·38	104·92	+5·47	...	**III.—Assam.**		
280	3	14	54	8	2		1	3	1·8	2·7	−33	89	·745	6·2	147	138·69	+ 8·31	138·16	125·33	+12·83	7·54	Silchar	Surma.	7
218	50	59	3	2	5	10		13	2·2	2·4	− 8	93	·711	7·9	143	129·16	+13·84	93·96	96·09	−2·13	3·16	Sibsagar	Brahmaputra.	9
61	5	89	150	17	24	14	4	1	4·6	4·7	− 2	88	·713	5·0	96	92·14	+ 3·86	99·03	93·33	+5·70	4·35	Dhubri.		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	79·61	72·09	+7·52	...	**IV.—Bengal and Orissa.**		
68	28	83	12	121	27	4		2	5·6	5·1	+10	87	·760	4·3	106	98·33	+ 7·17	129·69	105·25	+24·44	9·19	Chittagong	East Bengal.	5
69	48	48	90	38	47	8	17		4·1			90	·776	5·0	125	107·63	+17·37	153·08	113·92	+39·16	8·24	Noakhali.		
110	21	9	35	83	103		2	2	4·4			82	·734	4·3	108	101·97	+ 6·03	97·07	89·39	+ 7·68	4·33	Comilla.		
117	12	14	31	42	77	27	13	29	2·3			90	·758	4·3	88	78·65	+9·35	72·83	61·55	+11·33	3·73	Sirajganj.		
41	30	26	30	80	74	40	16	28	5·8	4·5	+29	88	·793	6·4	114	94·57	+19·43	80·76	73·70	+ 7·06	4·40	Narayanganj.		
137	24	24	10	49	70	25	5	21	2·9			87	·807	4·8	95	99·31	− 4·31	88·44	77·95	+10·49	6·70	Barisal.		
168	5	4	60	34	25	8	1	3	0·8			88	·747		126	104·27	+21·73	104·26	87·23	+17·03	3·98	Mymensingh.§		
192	22	1	11	24	100	11	1		1·7			91	·784	4·0	105	88·31	+16·69	80·95	68·54	+12·41	4·70	Faridpur.	Deltaic Bengal.	10
269	9	4	4	22	43	16	2	1	1·8	3·2	−44	87	·786	4·3	94	88·78	+5·22	70·65	65·48	+ 5·19	4·17	Jessore.		
86	34	11	21	33	51	83	21	25	3·8	4·8	−21	85	·788	4·4	89	85·32	+ 3·68	71·95	63·68	+ 8·27	4·45	Calcutta.		
4	59	54	24	18	82	76	22	26	12·5	10·7	+17	87	·844	5·4	72	83·10	−11·10	80·17	71·79	+ 8·38	6·87	Saugor Island.		
14	27	12	44	58	78	31	56	45	3·9			83	·759	4·2	83	74·27	+ 8·73	63·43	54·04	+ 9·39	6·11	Krishnagar.		
129	78	11	7	14	86	11	10	13	3·4			77	·721	2·7	72	75·92	− 3·92	63·22	55·91	+ 7·31	4·28	Midnapore.		
320	1	2	3	14	3	4	14	3	0·9			73	·661	3·5	69	79·08	−10·08	50·37	56·26	− 5·89	3·09	Bankura	Central Bengal.	11
136	8	13	21	22	20	19	34	42	1·7			75	·661	3·5	65	73·07	− 8·07	40·10	54·30	−14·20	2·11	Raniganj.		

§ Wind observations of 358 days.

Abstract of observations taken at **Table**

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.										
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
11	Central Bengal (*concld.*)	Burdwan	99	29·751	−·002	29·800	30·098	29·337	·761	·252	75·1	89·1	+0·3	70·2	−0·2	79·7	+0·1	18·9	112·5	46·6	65·9	31·6
		Naya Dumka	489	29·344		29·801	29·632	28·935	·747	·259	74·3	87·4		67·5		77·5		19·9	106·9	43·3	66·6	33·3
		Berhampore	67	29·780	−·011	29·796	30·130	29·358	·772	·268	73·9	87·0	−0·3	69·5	+0·1	78·3	−0·4	17·5	110·6	43·1	67·5	31·4
		Rampur Boalia	70	29·772		29·792	30·110	29·362	·748	·263	74·2	86·1		69·0		77·6		17·2	108·5	42·5	66·0	30·7
		Malda	72	29·766		29·791	30·126	29·372	·754	·272	73·1	86·5		67·4		77·0		19·1	109·0	41·0	68·0	32·7
		Bogra	61	29·776		29·790	30·106	29·399	·707	·254	72·9	85·5	−0·4	68·2	+0·5	76·9	+0·1	17·3	109·3	44·2	65·1	30·1
12	North Bengal	Dinajpur	123	29·739	?	29·815	30·083	29·357	·726	·263	71·9	85·5	−0·4	66·6	−0·2	76·1	−0·3	18·9	105·8	42·0	63·8	31·5
		Rangpur	123	29·717*		29·796*	30·072	29·345	·727	·270*	75·8†	86·9†		70·4†		78·7†		16·5†	102·7	47·2	55·5	28·6
		Jalpaiguri	284	29·575	−·001	29·824	29·916	29·187	·729	·263	71·6	83·3	−0·2	66·4	+1·0	74·9	+0·4	16·9	102·5	44·1	58·4	26·6
		Cooch Behar	156	29·701		29·826	30·060	29·324	·736	·259	71·3	83·4		67·5		75·5		15·9	96·9	45·9	51·0	26·4
17	North Bihar	Purnea	125	29·722	+·001	29·805	30·074	29·342	·732	·275	71·3	85·7	−1·1	66·8	+0·8	76·3	−0·2	18·9	107·8	40·3	67·5	32·0
14	Orissa	Balasore	46	29·805	+·011	29·799	30·179	29·438	·741	·249	75·1	88·9	+1·2	70·0	−0·2	79·5	+0·5	18·9	106·0	45·9	60·1	31·7
		False Point	21	29·839	+·006	29·802	30·182	29·443	·739	·237	77·7	86·0	+0·2	71·7	−0·4	78·9	−0·1	14·3	101·0	45·8	55·1	27·2
		Cuttack	80	29·779	+·007	29·803	30·137	29·407	·730	·235	76·0	92·3	+0·9	72·1	−0·3	82·2	+0·3	20·1	111·5	48·6	62·9	32·3
		Shortt's Island	26	29·837		29·806	30·197	29·458	·739	·247	79·7	86·2		77·4		81·8		8·8	98·2	59·5	38·7	19·1
		Puri	20	29·843*		29·806*	30·190	29·445	·745	·224*	78·6	87·6		74·6		81·1		13·1	102·2	52·1	50·1	24·4
	V.—Gangetic Plain and Chota Nagpur.		...	...	−·003	...	...	...	...	...	...	83·4	+0·5	66·7	0	77·6	+0·2	21·7	...	...	70·3	34·8
15	Chota Nagpur	Hazaribagh	2,007	27·823	+·001	29·804	28·126	27·502	·624	·223	72·2	85·4	+1·1	65·9	+0·6	75·7	+0·3	19·5	108·1	40·3	67·8	32·7
		Ranchi	2,128	27·711	+·008	29·804	28·000	27·377	·623	·220	72·2	85·4	+1·6	65·3	+0·9	75·4	+1·3	20·1	106·3	39·7	66·6	33·7
		Daltonganj	730?	29·105		29·810	29·463	28·738	·725	·241	70·7	91·2		63·5		77·4		27·7	114·6	31·0	80·6	41·8
		Chaibassa	760	29·076		29·799	29·406	28·703	·703	·222	73·5	91·0	+1·2	68·0	−0·6	79·5	+0·3	23·0	110·0	43·1	66·9	36·3
16	South Bihar	Gaya	375	29·460	−·003	29·797	29·814	29·090	·724	·250	74·4	90·6	+0·8	68·2	−0·3	79·4	+0·3	22·4	113·0	43·0	70·0	35·7
		Dehri	351	29·473		29·786	29·828	29·106	·722	·253	74·5	89·7		69·3		79·5		20·4	114·5	45·1	69·4	34·7
		Patna	183	29·653	−·010	29·783	30·031	29·284	·747	·249	73·7	86·8	−1·0	68·6	+0·4	77·7	−0·3	18·2	108·0	41·2	66·8	32·0
		Arrah	190	29·637		29·784	30·015	29·261	·754	·252	72·9	88·5		66·7		77·6		21·8	109·4	40·7	68·7	35·7
		Buxar	239	29·581		29·780	29·969	29·200	·769	·260	74·0	88·3		67·9		78·2		20·4	110·0	41·0	69·0	33·6
17	North Bihar	Bhagalpur	160	29·675		29·791	30·040	29·298	·742	·262	74·0	86·8		67·8		77·4		19·0	108·6	42·7	66·1	32·4
		Darbhanga	166	29·674	−·010	29·796	30·024	29·295	·729	·257	72·8	85·3	−0·3	63·7	+0·1	77·0	−0·1	16·6	105·8	44·2	61·6	18·4
		Muzaffarpur	178	29·652		29·788	30·018	29·281	·737	·263	72·7	85·3		67·0		76·2		18·3	105·2	41·8	63·4	30·0
		Motihari	224	29·618		29·806	29·999	29·249	·750	·263	71·3	85·8		65·0		75·5		20·8	108·0	39·0	69·0	33·8
		Chapra	181	29·652		29·791	30·019	29·275	·744	·252	72·6	87·4		67·3		77·6		19·6	108·7	42·2	66·5	33·0
18	N.-W. Provinces (East).	Benares	267	29·560	−·005	29·789	29·935	29·157	·778	·260	72·5	89·5	−0·1	66·6	−0·3	78·1	−0·2	22·9	112·3	37·9	74·4	36·5
		Allahabad	309	29·521	−·004	29·791	29·932	29·141	·741	·246	74·0	90·4	+0·5	66·3	−0·3	78·4	+0·1	24·1	113·1	36·4	76·7	38·2
23	N.-W. Provinces (East Submontane).	Gorakhpur	256	29·575	+·005	29·795	29·929	29·203	·726	·257	72·6	87·1	−1·0	67·0	−0·2	77·1	−0·6	20·1	109·7	41·5	68·2	34·0
19	South Oudh	Lucknow	368	29·448	−·012	29·785	29·813	29·071	·742	·263	72·0	91·0	+1·4	65·1	−0·2	78·1	+0·6	25·9	113·3	36·1	77·2	40·5
20	North Oudh	Bahraich	403	29·411		29·785	29·774	29·030	·744	·261	72·4	88·5		65·2		76·9		23·3	109·5	36·6	73·0	38·0
21	N.-W. Provinces (Central).	Cawnpore	416	29·405	0	29·785	29·768	29·027	·741	·254	73·2	91·1	+1·7	65·7	−0·6	78·4	+0·5	25·4	113·6	36·0	77·6	39·4
		Mainpuri	516	29·299		29·786	29·658	28·888	·770	·262	72·4	91·3		65·4		78·4		25·9	114·2	36·5	77·7	40·0
	VI.—Upper Sub-Himalayas		...	...	−·005	...	...	...	...	...	...	89·5	+2·1	64·4	+1·5	77·0	+1·8	25·3	...	...	77·6	40·8
24	N.-W. Provinces (West Submontane).	Bareilly	569	29·242	−·002	29·789	29·613	28·833	·780	·275	70·6	88·5	+1·0	64·8	+0·4	76·7	+0·7	23·7	111·0	35·2	75·8	38·5
		Dehra Dun	2,233	27·589	−·016	29·812	27·900	27·204	·696	·257	66·3	82·6	+1·8	50·5	−0·4	71·6	+0·7	22·1	104·5	35·0	69·5	34·7
		Roorkee	887	28·919	−·007	29·799	29·291	28·486	·805	·272	68·5	89·4	+1·2	61·8	−0·7	75·1	+0·3	28·6	112·2	32·7	79·5	41·6

* Mean of 11 months.

† Mean of 10 months.

I—*contd.*

. stations in India, Burma, etc., in the year 1899—contd.

I.

Wind direction. Number of winds from: Calm.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Wind velocity. Mean velocity in miles per hour.	Normal.	Percentage variation.	Hygrometry, 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of district.
185	11	12	10	17	36	49	25	20	2·1	3·3	−36	80	·738	4·3	79	77·88	+1·12	67·85	55·13	+12·72	4·85	Burdwan,	Central Bengal —*concld.*	11
106	22	17	37	42	37	21	25	58	1·5			74	·655	3·9	77	80·15	−3·15	72·20	57·64	+14·56	3·48	Naya Dumka,		
172	7	6	35	19	64	34	21	7	2·5	3·5	−29	84	·741	4·6	75	79·22	−4·22	53·61	55·97	− 2·36	3·11	Berhampore,		
98	44	27	16	46	56	37	31	10	4·1			85	·750	3·9	75	74·85	+0·15	59·30	56·50	+ 2·80	4·34	Rampur Boalia,		
	60	61	36	58	54	23	42	31	2·3			84	·715	3·9	78	69·31	+8·69	65·86	55·37	+10·49	4·30	Malda,		
					Not	rec	orde	d.				87	·739	4·1	94	81·51	+12·49	87·64	67·41	+20·23	4·89	Bogra,		
3	33	75	109	41	23	18	27	36	3·5			84	·694	4·5	100	76·91	+23·09	115·26	69·90	+45·36	8·75	Dinajpur . . .	North Bengal.	12
60	4	87	123	28	39	16	3	5	2·4			88†	·798†	4·0	94	79·48	+14·52	85·24	81·57	+ 3·67	4·56	Rangpur,		
4	91	99	111	55	14	7	8	25	2·5			90	·706	2·4	107	100·62	+6·38	121·32	127·76	− 6·44	4·52	Jalpaiguri,		
106	12	61	91	78	16			1	1·9			87	·700	5·9	105			131·42	131·13	+ 0·29	7·75	Cooch Behar,		
88	15	50	81	46	8	20	22	23	4·1	2·4	+71	86	·697	4·4	86	70·60	+15·40	91·98	64·11	+27·87	5·55	Purneat‡	North Bihar.	17
44	55	14	5	3	38	110	26	70	4·2			83	·758	3·6	70	82·32	−12·32	72·93	65·56	+ 7·37	7·46	Balasore . . .	Orissa,	14
17	56	4	5	8	28	92	82	73	7·3	9·1	−20	86	·839	5·2	72	74·44	− 2·44	51·51	69·87	−18·36	6·62	False Point,		
161	5	18	10	1	15	73	65	17	2·4	3·4	−29	80	·746	4·3	58	76·99	−18·99	57·55	63·42	− 5·87	11·52	Cuttack,		
1	39	42	9	10	9	160	54	36	13·8			91	·833	3·4	62			45·45	52·99	− 7·54	5·78	Shortt's Island,		
76	86	16	4	3	4	120	35	24	10·8			82	·832	3·6	54	66·23	−12·23	36·77	56·62	−19·85	5·57	Puri,		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	51·42	44·79	+6·63		**V.—Gangetic Plain and Chota Nagpur.**		
27	11	8	23	20	46	55	132	43	7·5	6·8	+10	59	·489	4·5	68	76·10	− 8·10	45·60	52·38	−6·78	2·19	Hazaribagh . . .	Chota Nagpur.	15
49	16	13	15	8	49	68	70	77	6·5			61	·532	3·8	58	82·99	−24·99	38·76	56·47	−17·71	2·32	Ranchi,		
161	9	4	33	32	53	33	31	9	4·6			68	·541	2·4	48	63·31	−15·31	31·12	45·48	−14·36	4·25	Daltonganj,		
246	1	8	3	2	2	47	46	10	2·0			73	·636	2·3	64	76·20	−12·20	43·53	54·10	−10·57	3·38	Chaibassa,		
85	4	27	30	55	53	57	51	3	4·5	2·6	+73	71	·635	3·0	65	57·26	+7·74	54·86	44·95	+ 9·91	4·90	Gaya	South Bihar.	16
7	8	9	33	20	75	140	45	13	5·0			65	·575	2·8	51	54·84	−3·84	43·91	43·11	+ 0·80	4·00	Debri.¶		
20	3	34	90	39	26	67	61	25	4·4	3·0	+48	74	·658	3·3	67	55·23	+11·77	53·31	45·13	+ 8·18	4·92	Patna,		
74	8	13	39	49	35	41	73	33	2·3			77	·659	2·5	54	57·06	−3·06	55·14	43·88	+11·26	4·50	Arrah,		
20	11	10	86	28	40	38	115	16	4·9			68	·608	2·8	54	54·82	−0·82	48·77	41·89	+ 6·88	6·78	Buxar		
173	3	31	34	47	17	32	19	9	?			77	·680	4·0	65	61·01	+3·99	73·94	46·73	+27·21	7·53	Bhagalpur.	North Bihar.	17
61	19	19	95	75	12	15	37	30	2·8	3·6	−22	83	·706	2·9	75	58·46	+16·54	64·90	48·99	+15·91	5·59	Darbhanga,		
184	3	21	67	38	4	19	21	6	2·3			83	·708	2·1	74	56·07	+17·93	103·79	47·24	+56·55	7·72	Muzaffarpur,		
	15	68	166	21	14	24	33	24	4·0			88	·720	1·9	66	56·43	+11·57	55·07	52·98	+ 2·09	4·55	Motihari,		
132	5	13	69	30	17	47	38	14	3·0			80	·683	3·3	60	52·25	+7·75	60·95	42·43	+18·52	4·43	Chapra,		
165	3	12	22	31	9	75	30	18	2·3	3·9	−41	72	·611	3·1	52	50·54	+1·46	53·32	39·43	+13·89	6·20	Benares	N.-W. Provinces (East).	18
66	6	17	54	11	21	40	103	47	5·5	4·6	+20	66	·574	2·9	48	43·47	−0·47	40·72	39·44	+ 1·28	2·91	Allahabad,		
60	48	72	47	24	23	18	44	29	1·9	2·5	−24	77	·654	3·3	70	52·29	+17·71	68·84	51·35	+17·49	7·06	Gorakhpur . . .	N.-W. Provinces (East Submontane).	23
59	28	17	57	24	24	26	99	31	2·2	3·1	−29	67	·567	3·1	43	46·83	−3·83	35·33	38·80	−3·47	3·85	Lucknow . . .	South Oudh,	19
103	10	11	38	62	4	10	37	40	2·3			72	·608	1·9	55			36·04	40·94	−4·90	2·72	Bahraich . . .	North Oudh,	20
158	9	8	20	19	6	42	88	15	2·7			62	·533	2·0	43	41·40	+1·60	43·91	31·80	+12·11	4·20	Cawnpore . . .	N.-W. Provinces (Central).	21
119	16	3	34	15	23	7	136	12	2·7			60	·509	3·5	40			28·12	33·09	−4·97	4·67	Mainpuri,		
...	...	...	...	...	...	...	..	...	...	...	...	..	...	...	...	...	...	18·74	37·82	−18·32	...	**VI.—Upper Sub-Himalayas.**		
217	2	24	26	25	3	12	16	40	1·7	3·5	−52	68	·543	2·8	37	47·17	−10·17	30·99	49·61	−18·62	2·94	Bareilly . . .	N.-W. Provinces (West Submontane).	24
235	15	15	10	14	17	11	30	18	1·6	1·8	−11	65	·453	3·4	67	79·59	−12·59	60·77	38·88	−28·11	4·17	Dehra Dun,		
270	3	4	1	50	8	2	4	23	2·7	2·5	+ 8	64	·478	2·3	35	46·57	−11·57	21·97	43·32	−21·35	4·10	Roorkee.		

¶ Wind observations of 350 days.

‡ Wind observations of 353 days.

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Abstract of observations taken at

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.										
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to constant gravity (45° Lat.).	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
22	N.-W. P., West	Meerut	738	29·065	−·009	29·789	29·927	28·637	·790	·263	69·8	90·2	+2·5	64·4	+0·8	77·3	+1·7	25·8	111·3	36·0	75·3	39·6
26	South East Punjab	Delhi	718	29·096	−·004	29·793	29·460	28·670	·790	·264	72·8	90·1	?	68·5	+1·3	79·3	?	21·6	110·7	39·4	71·3	36·0
28	Central Punjab	Lahore	702	29·098	−·006	29·790	29·497	28·602	·895	·307	70·6	91·5	+2·9	64·4	+3·1	78·0	+3·0	27·1	116·6	32·2	84·4	44·2
27	South Punjab	Sirsa	662	29·158	+·006	29·799	29·543	28·705	·838	·283	73·9	93·6†	+2·0†	68·3	+3·0	82·1	+2·7	27·5	115·8	40·5	75·3	43·9
		Patiala	818	28·988		29·792	29·369	28·541	·828	·290	71·6	89·4		64·7		77·1		24·8	112·2	34·0	78·2	40·4
29	Punjab (Submontane).	Ludhiana	812	28·988	−·010	29·790	29·380	28·525	·855	·288	70·4	89·5	+0·9	65·1	+1·9	77·3	+1·4	24·4	113·3	34·5	79·4	40·5
		Sialkot	830	28·969	+·001	29·792	29·375	28·475	·900	·304	73·5	93·0	+3·5	67·2	+3·3	80·1	+3·4	25·8	115·9	39·1	76·8	43·3
		Umballa	892	28·913		29·794	29·287	28·470	·817	·277	68·5	89·6		63·3		76·5		26·3	112·9	34·0	78·9	41·4
31	North Punjab	Rawalpindi	1,676	28·133	−·003	29·798	28·491	27·666	·828	·316	65·8	87·2	+3·1	59·4	+2·3	73·3	+2·7	27·8	115·0	27·9	87·1	45·2
	VII.—Indus Valley and North-West Rajputana.		...	...	−·007	...	...	...	...	...	...	93·3	+2·1	66·2	+1·1	79·7	+1·6	27·1	...	...	83·7	42·4
31	North Punjab	Peshawar	1,110	28·716	−·019	29·793	29·117	28·188	·929	·346	68·6	87·3	+1·7	60·5	+1·6	73·9	+1·7	26·8	115·5	28·9	86·6	42·6
32	West Punjab	Khushab	612	29·198		29·798	29·593	28·670	·929	·325	71·6	91·8		64·5		78·2		27·3	118·9	25·0	93·9	44·3
		Montgomery	558	29·242	−·009	29·780	29·652	28·751	·901	·324	74·0	93·5	?	65·0	?	79·3	?	28·5	117·5	32·0	85·5	45·5
		D. I. Khan	594	29·236	−·014	29·793	29·699	28·711	·988	·369	70·7	91·3	+1·2	63·1	+0·7	77·2	+1·0	28·2	117·2	29·0	83·2	44·2
		Mooltan	420	29·380	−·022	29·780	29·315	28·476	·839	·352	71·9	93·9	+2·7	66·7	+2·1	80·3	+2·4	27·2	118·5	32·5	86·0	42·3
47	Sind	Jacobabad	186	29·620	−·010	29·771	30·102	29·110	·992	·235	75·2	98·3	+3·3	65·5	+0·8	81·9	+2·0	32·8	123·0	32·0	91·0	49·6
		Hyderabad	96	29·750	+·017*	29·801	30·196	29·259	·937	·290	74·3	94·8	+1·8	67·9	−0·4	81·4	+0·7	26·9	118·7	37·0	81·7	41·1
		Kurrachee	30	29·894	+·006	29·825	30·244	29·394	·850	·268	76·7	89·3	+0·9	70·3	+0·4	79·9	+0·7	19·0	111·4	40·5	70·9	33·0
51	West Rajputana	Bikaner	771	29·044		29·800	29·467	28·628	·839	·289	75·9	94·6	+3·1	70·1	+2·7	82·4	+3·0	24·5	115·8	38·1	77·7	39·2
		Pachpadra	380	29·477		29·823	29·819	29·062	·787	·265	7·31	96·3		65·5		80·9		30·8	115·8	31·9	83·9	41·8
		Jodhpur	782	29·055		29·830	29·482	28·654	·828	·269	75·1	94·7		68·9		81·8		25·8	113·3	38·1	75·2	39·6
	VIII.—East Rajputana, Central India and Gujarat.		...	...	+·007	...	...	...	...	...	...	92·8	+2·9	68·2	+1·7	80·5	+2·2	24·6	...	...	71·3	38·0
50	East Rajputana	Jaipur	1,431	28·421	+·004	29·835	28·731	28·052	·679	·249	73·6	93·1	+3·1	67·0	+2·4	80·1	+2·7	26·1	112·5	36·2	76·3	41·3
		Kotah	819	29·018			29·371	28·659*	·712	·249	77·7	95·0		71·6		83·3		23·4	115·6	42·5	73·1	37·2
		Sambhar	1,254	28·590	+·011	29·833	28·913	28·224	·689	·248	72·3	92·7	+3·7	66·5	+2·0	79·6	+1·9	26·2	112·0	33·0	79·0	41·2
		Ajmer	1,611	28·245	?	29·850	28·574	27·985	·689	·247	71·5	92·0	+3·4	66·6	+3·2	79·3	+3·3	25·4	110·4	33·5	76·9	39·6
		Udaipur	1,925	27·953		29·855	28·233	27·613	·620	·229	73·6	90·4		65·9		78·2		24·5	108·1	34·7	73·4	38·7
		Deesa	466	29·412	+·012	29·841	29·707	29·048	·659	·228	76·5	96·1†	+4·0†	68·7†	+2·0†	82·2†	+3·0†	27·7	113·1	38·5	74·6	39·5*
46	Kathiawar and Cutch.	Bhuj	395	29·293	?	29·848	29·791	29·086	·705	·236	76·5	93·0	+1·9	69·0	+0·3	81·0	+1·1	24·0	109·8	43·5	66·3	35·7
		Rajkot	429	29·462	+·015	29·852	29·716	29·100	·616	·217	74·5	95·1	+2·2	66·1	+0·1	80·6	+1·2	29·1	111·9	38·1	73·8	41·8
		Veraval		29·889		29·849	30·123	29·535	·588	·204	75·9	85·2		71·0		78·2		14·2	101·6	48·3	53·3	26·6
		Bhavnagar Para	35	29·864?		29·845?	30·148	29·517	·631	·217	75·7	95·9		69·0		82·5		26·9	111·7	40·7	71·0	41·0
49	Central India	Nowgong	757	29·088?	+·001	29·820?	29·419	28·698	·721	·233	71·9	90·0	?	65·7	+0·3	77·9	?	24·3	112·5	35·5	77·0	38·5
		Indore	1,823	28·067	+·025	29·861	28·336	27·762	·574	·215	73·1	90·5	+3·1	64·2	+0·7	77·4	+1·9	26·3	108·0	37·6	70·4	39·4
		Neemuch	1,630	28·255	+·008*	29·862	28·552	27·918	·634	·233	74·2	91·5	+2·9	65·5	+1·2	78·4	+2·1	26·0	110·1	37·0	73·1	40·0
45	Gujarat	Surat	39	29·865?	+·007	29·847?	30·112	29·495	·617	·211	77·2	93·9	+2·6	70·3	+1·4	82·1	+2·0	23·6	109·1	46·3	62·8	35·5
		Ahmedabad	164	29·751		29·865	30·054	29·405	·649	·222	78·1	97·0		71·7		84·4		25·3	111·8	47·2	64·6	36·8
22	N.-W. P., West	Agra	555	29·268	−·010	29·794	29·642	28·841	·801	·265	74·1	92·4	+1·9	68·9	+1·6	80·7	+1·7	23·5	114·5	38·9	75·6	36·9
21	N.-W. P., Central	Jhansi	856	28·970	0	29·795	29·339	28·589	·740	·251	76·8	93·3	+2·6	71·6	+3·4	82·5	+3·0	21·7	113·4	42·9	70·5	36·7
	IX.—Deccan.		...	...	+·015	...	...	...	...	...	...	92·4	+2·6	67·6	+0·6	80·0	+1·6	24·8	...	...	66·4	37·4
38	Bombay Deccan	Belgaum	2,539	27·380	+·013	29·866	27·555	27·114	·441	·164	71·0	84·5	+0·2	63·4	−0·5	74·0	−0·1	21·1	100·6	48·6	52·8	31·4
		Sholapur	1,590	28·324	+·019	29·872	28·551	28·013	·538	·185	76·5	95·0	+2·4	68·9	+1·2†	82·0	+1·9†	26·1	109·7	49·1	60·6	36·2
		Poona	1,849	28·081	+·017	29·893	28·304	27·763	·541	·167	71·3	91·5	+2·7	63·8	−1·2	77·7	+0·8	27·6	105·0	43·5	61·5	38·3
		Bijapur	1,946	27·934?		29·895†	28·187	27·695	·492	·173	74·1†	92·1		66·7		79·4		25·4	106·7	40·6	66·	·5

* Mean of 10 months.

† Mean of 11 months.

I—*contd.*

at 214 stations in India, Burma, etc., in the year 1899—contd.

Wind Direction. Number of winds from									Wind velocity.			Hygrometry 8 A.M.		Mean cloud amount of year.	Rainfall.						Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour.	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year		Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
187		3	26	24	1	22	79	15	1·9	2·2	—14	64	·511	3·0	26	39·18	—13·18	17·76	32·89	—15·13	2·45	Meerut	N.-W. P., West.	22
58	11	4	40	26	14	4	147	61	4·6	3·6	+28	49	·429	2·7	25	33·74	— 8·74	12·12	30·03	—17·91	1·30	Delhi	South-East Punjab.	26
158	20	10	34	51	23	15	29	25	2·4	2·5	— 4	57	·471	2·2	14	28·26	—14·26	6·21	21·95	—15·74	1·51	Lahore	Central Punjab.	28
3	13	62	15	102	7	89	15	59	6·9	3·6	+92	44	·399	2·7	5	23·39	—18·39	2·24	15·55	—13·31	0·83	Sirsa	South Punjab.	27
160	25	14	9	94	8	3	12	40	3·1			62	·515	2·1	24			10·34			1·30	Patiala		
164	10	19	9	60	17	12	32	42	2·8	1·5	+87	57	·450	2·5	20	37·00	—17·00	9·31	30·90	—21·59	2·02	Ludhiana	Punjab (Submontane).	29
116	38	50	77	35	9	6	13	21	2·5	1·8	+39	56	·487	1·9	27	38·36	—11·36	12·97	34·12	—21·15	1·80	Sialkot.		
233	3	3	17	38	1		12	58	1·7			67	·504	1·9	32			18·29	33·11	—14·82	1·80	Umballa.		
284	15	6	18	5	1	3	47	16	1·7	2·0	—15	63	·441	2·4	42	46·81	— 4·81	21·93	35·17	—13·24	2·25	Rawalpindi	North Punjab.	31
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·79	9·66	—6·87	...	VII.—Indus Valley and North-West Rajputana.		
214	31	11	5	6	33	17	24	19	2·7	3·4	—21	59	·448	2·8	17	21·56	—4·56	9·30	13·54	— 4·24	1·57	Peshawar	North Punjab.	31
89	26	101	63	13	22	24	16	9	6·0			47	·412	1·5	11	16·30	—5·30	4·38	10·39	— 6·01	1·72	Khushab	West Punjab.	32
60	27	27	36	53	54	66	23	19	7·0			42	·378	1·7	6	15·70	—9·70	0·92	10·88	— 9·96	0·27	Montgomery.		
199	38	61	3	23	4	5	5	27	2·3	1·3	+28	59	·485	1·9	11	14·73	—3·73	6·00	8·42	— 2·42	2·24	D. I. Khan.		
142	15	54	3	30	28	72	8	18	2·3	2·5	— 8	54	·465	1·6	7	11·72	—4·72	3·28	7·56	— 4·28	0·74	Mooltan.		
122	21	13	67	78	15	4	12	33	3·6	3·4	+ 6	52	·387	1·5	3	6·63	—3·63	2·00	4·08	— 2·08	1·60	Jacobabad	Sind.	47
65	45	8		1	29	148	32	37	13·1	10·1	+79	53	·488	2·3	1	10·14	—9·14	1·11	7·06	— 5·95	1·11	Hyderabad.		
36	12	56	36	6	3	49	134	33	9·3	13·3	—30	70	·665	2·8	2	9·73	—7·73	0·63	7·92	— 7·29	0·29	Kurrachee.		
14	26	27	20	17	67	107	54	33	8·0	4·8	+67	56	·561	1·5	5			1·14	11·95	—10·81	0·46	Bikaner	West Rajputana.	51
16	17	49	27	15	37	112	31	15	8·9†	5·8	+53	48	·455	2·6	2			0·95	10·28	— 9·33	0·62	Pachpadra.¶		
79	41	57	7	1	21	94	56	9	4·9			41	·401	2·5	2			1·01	14·16	—13·15	0·53	Jodhpur.		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13·20	30·12	—16·22	...	VIII.—East Rajputana, Central India and Gujarat.		
44	44	49	16	6	9	35	88	74	4·5	5·1	—16	51	·455	2·6	18	38·70	—20·70	11·44	28·76	—17·32	3·03	Jaipur	East Rajputana.	50
94	24	13	9	13	3	54	98	57	5·0	?		42	·410	1·6	16			15·57	29·92	—14·35	7·29	Kotah.		
167	15	12	9	5	6	21	107	23	5·9	6·7	—12	48	·416	2·4	13	32·56	—19·56	9·01	22·91	—13·90	3·65	Sambhar		
141	8	15	1	8	9	32	129	22	5·8	4·3	+35	57	·447	2·3	18	32·99	—14·99	10·00	22·18	—12·18	2·60	Ajmer.		
99	31	11	3	7	13	57	80	63	5·9			44	·396	1·7	14			10·16			2·87	Udaipur.		
	18	60	79	20	16	87	57	27	10·4	10·3	+ 1	49	·506	2·3	6	23·81	—22·81	2·00	26·73	—24·73	0·52	Deesa.		
21	35	10	17	3	5	72	162	40	13·3	10·2	+30	63	·600	2·8	2			0·88	14·61	—13·75	0·57	Bhuj	Kathiawar and Cutch.	46
64	39	5	36	2	25	22	143	17	9·7	9·2	+ 5	65	·608	2·4	11	33·04	—22·94	7·80	28·67	—20·87	2·15	Rajkot.§		
3	24	52	4	7	8	63	79	55	7·9			69	·648	3·0	9			4·95	21·02	—16·07	3·15	Veraval.		
1	20	12	7	4	5	134	68	114	9·8			50	·499	2·3	11			5·79			1·30	Bhavnagar Para.		
38	17	5	50	11	16	75	140	13	2·9	2·5	+16	63	·516	3·3	35	49·75	—14·75	42·35	44·43	— 2·08	6·72	Nowgong	Central India.	49
95	33	25	2	10	11	40	109	40	4·6	4·2	+10	58	·504	2·8	20	48·00	—28·00	15·75	34·91	—19·16	2·63	Indore.		
42	16	84	16	15	3	60	93	32	10·0	10·1	— 1	53	·488	2·3	16	39·18	—23·18	12·01	32·26	—20·25	2·22	Neemuch.		
39	29	50	43	30	32	107	20	15	5·7	9·0	—37	61	·633	3·1	23	49·36	—26·36	18·19	46·34	—27·85	5·77	Surat	Gujarat.	45
17	43	60	25	6	36	75	21	68	6·0			51	·521	2·3	9			5·14	30·32	—25·18	1·20	Ahmedabad.‖		
31	2	38		53	2	126		113	5·2	4·2	+24	55	·499	2·2	35	38·91	— 3·91	23·51	29·12	— 5·61	2·72	Agra	N.-W. P., West.	22
69	5	9	21	8	5	89	88	76	4·1	2·9	+41	48	·473	1·9	38	49·07	—11·07	29·56	39·63	—10·07	4·20	Jhansi	N.-W. P., Central.	31
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19·65	·39	—21·62	...	IX.—Deccan.		
64	22	18	35	33	13	55	80	49	14·8	15·7	— 6	69	·529	3·9	75	53·08	— 8·08	30·55	48·74	—18·19	2·50	Belgaum	Bombay, Deccan.	38
29	15	22	29	68	5	54	51	94	13·6	8·9	+64	45	·528	3·3	21	51·00	—30·00	12·81	33·90	—21·09	2 39	Sholapur.		
26	12	7	9	11	8	81	136	75	11·7	10·0	+17	59	·479	3·5	26	49·36	—23·36	13·20	28·74	—15·54	1·40	Poona.		
23	2	13	46	35	8	52	126	61	7·0			67†	·573	2·4	24	43·52	—19·52	17·85	16·58	+ 1·27	2·78	Bijapur.		

§ Wind observations of 358 days.

‖ Wind observations of 351 days.

† " " 319 "

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean reduced to sea level and constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
40	Khandesh	Malegaon	1,430	28·466	+·012	29·671	28·714	28·143	·571	·194	74·9	94·6	+3·7	55·0	+0·3	79·8	+2·0	29·6	109·3	37·2	72·1	43·2
		Ahmednagar	2,152	27·779		29·387	27·997	27·460	·537	·194	73·8	91·3		62·8		77·1		28·5	105·9	37·9	68·0	41·6
41	Berar	Akola	930	28·961	+·023	29·853	29·275	28·651	·624	·218	76·4	96·5	+4·4	57·7	+1·0	82·1	+2·7	28·8	112·6	39·7	72·9	42·2
		Amraoti	1,215	28·671	+·029	29·849	28·974	28·368	·606	·216	77·6	95·3	+2·9†	70·2	+1·4†	82·8	+2·2†	25·1	112·5	43·9	68·6	36·9
42	Central Provinces, West.	Khandwa	1,044	28·847	+·028	29·863	29·158	28·574	·634	·225	75·3	95·2	+4·1	57·7	+1·3	81·5	+2·7	27·5	110·7	36·2	74·5	42·9
		Hoshangabad	1,006								73·6	92·5	+2·7†	56·8†	+0·5†	78·1†	+1·6†	24·1†	112·5	40·2	72·3	37·6
		Nagpur	1,025	28·845	+·017	29·837	29·185	28·526	·659	·222	76·3	95·0	+3·4	59·4	+1·0	82·2	+2·2	25·6	114·2	40·6	73·6	33·3
43	Central Provinces, Central.	Chanda	634	29·264	+·011	29·852	29·591	28·961	·630	·217	76·2	95·6	+3·1	58·4	−0·1	82·0	+1·5	27·2	114·2	37·1	77·1	41·1
		Seoni	2,033	27·944	+·017	29·337	28·134	27·512	·622	·218	73·5	89·9	+2·3	55·8	+1·0	77·9	+1·7	24·1	108·4	38·5	69·9	37·8
		Jubbulpore	1,327	28·519	P	29·827	28·846	28·138	·708	·225	71·6	90·2	+2·2	54·6	+0·3	77·5	+1·3	25·6	111·5	34·9	76·6	39·2
		Saugor	1,807	28·066	+·021*	29·838	28·366	27·691	·675	·219	75·3	89·7	+1·6*	58·1	+2·1*	78·8	+1·9*	21·6	109·4	41·0	68·4	35·0
49	Central India	Sutna	1,040	28·794	+·002	29·813	29·139	28·420	·719	·244	73·5	89·4	+1·7	56·2	+1·1	77·8	+1·4	23·2	110·6	36·1	74·5	37·3
44	Central Provinces, East.	Raipur	970	28·338	+·014	29·821	29·229	28·553	·676	·216	76·1	92·5	+2·5	59·6	+0·7	81·1	+1·3	22·9	111·5	45·9	65·6	37·4
		Sambalpur	496	29·374	+·004	29·818	29·745	29·024	·721	·226	75·4	92·0	+0·8*	59·9	0 *	80·9	+0·8*	22·1	110·1	42·2	67·9	35·1
39	Hyderabad, North.	Indur				Not	recorded.				77·5	93·0		58·5		80·7		24·5	108·4	40·9	67·5	38·2
		Bidar	2,165	27·737†		29·842†	27·947	27·486	·461	·175	76·2	90·7		62·7		79·2		23·0	100·0	51·7	48·3	32·7
29	Hyderabad, South	Gulbarga	1,502	28·436†		29·897†	28·564	28·150	·514	·187	75·3*	94·4		58·3		81·4		26·1	109·0	45·7	63·3	38·1
		Raichur	1,309	28·602		29·869	28·826	28·333	·493	·172	77·5	93·3		71·3		82·3		22·0	106·0	50·2	55·8	34·7
		Hyderabad (Dr.)	1,690	28·213	+·009†	29·853	28·444	27·943	·496	·185	75·1	92·2	+2·1	59·0	+1·0	80·6	+1·5	23·2	106·4	47·3	59·1	34·0
		Secunderabad	1,787	28·117	+·004	29·861	28·344	27·861	·483	·184	74·4	93·1	+3·1	59·2	+1·2	81·2	+2·1	24·0	108·8	47·2	61·6	35·2
		Hanumkonda		29·014			29·298	28·746	·552	·197	78·4	93·2		71·9		82·6		21·3	109·7	48·1	61·6	33·9
	X.—West Coast.		...	...	+·016	...	...	...	...	...	...	86·3	+0·5	74·0	+0·1	80·2	+0·3	12·2			32·5	19·4
37	Konkan	Bombay	37	29·891	+·021	29·868	30·096	29·534	·562	·193	78·2	86·3	+0·7	75·2	+0·6	80·8	+0·7	11·0	98·5	59·0	34·5	18·1
		Ratnagiri	110	29·811	+·023	29·860	29·996	29·459	·537	·179	78·4	87·5	+0·3	73·6	+0·9	80·6	+0·6	13·9	97·4	59·0	38·4	22·9
		Mormugao	60	29·863		29·858	30·047	29·606	·441	·166	78·0	85·9		74·5		80·2		11·4	93·0	62·3	30·7	18·2
		Goa	199	29·732	+·026*	29·870	29·928	29·489	·439	·165	78·1	85·0		74·5		79·8		10·5	92·0	63·0	29·0	17·6
		Karwar	44	29·893	+·015	29·869	30·069	29·661	·408	·162	75·1	86·3	+0·4	72·0	−0·5	79·2	−0·1	14·3	93·3	58·5	34·8	21·7
33	Malabar	Cochin	11	29·942	+·009	29·880	30·072	29·812	·260	·140	78·5	88·2	+1·2	74·7	+0·2	81·5	+0·7	13·5	94·5	66·3	28·2	20·3
		Calicut	27	29·922	+·006	29·876	30·061	29·783	·278	·153	78·1	86·9	+0·1	73·3	−0·5	80·1	−0·2	13·6	93·3	63·0	30·3	19·4
		Mangalore	65	29·894	+·012	29·881	30·019	29·717	·302	·150	78·3	87·0	+0·4	73·8	−0·2	80·4	+0·1	13·2	93·8	62·5	31·3	20·5
		Trivandrum	198	29·746		29·876	29·864	29·595	·269	·143	77·5	83·6		72·8		79·3		8·8	100·0	65·0	35·0	16·2
	XI.—South India.		...	...	+·011							90·2	+1·0	71·2	+0·1	80·7	+0·6	19·0			45·0	29·0
57	Madras, South	Pamban	37	29·888		29·852	30·056	29·720	·346	·149	81·5	87·7		75·3		81·5		12·4	94·3	69·2	25·1	17·6
		Tinnevelly	163	29·769		29·867	29·954	29·577	·377	·150	81·2	93·6		76·0		84·8		17·7	103·4	65·9	37·5	27·6
		Madura	447	29·476	+·009	29·861	29·662	29·292	·370	·149	80·4	93·3	−0·9	73·6	0	83·5	−0·5	19·7	102·0	63·7	38·3	28·7
34	Madras, South Central.	Salem	940	29·013	+·007	29·901	29·192	28·836	·356	·144	77·8	93·5	+0·6	70·5	+0·3	82·0	+0·6	23·0	101·9	56·0	45·9	32·9
		Coimbatore	1,348	28·588	+·013	29·892	28·761	28·431	·330	·133	75·6	90·7	+0·5	59·2	−0·4	80·0	+0·1	21·5	99·9	56·7	43·2	31·0
25	Coorg	Mercara	3,781	26·229	P		26·356	26·100	·256	·130	65·3	76·5	+0·2	61·4	+0·4	69·0	+0·3	15·1	83·5	49·3	39·2	23·6
36	Mysore	Chitaldroog	2,405	27·536		29·872	27·709	27·325	·384	·151	73·5	87·3		67·0		77·2		20·3	98·2	52·9	44·3	29·3
		Bangalore	3,021	26·954	+·005	29·890	27·109	26·771	·338	·141	69·9	84·8	+1·0	63·4	−0·4	74·2	+0·3	21·4	94·3	50·9	43·9	30·9
		Hassan	3,091	26·896		29·903	27·039	26·713	·326	·135	70·8	83·1		61·2		72·2		21·9	93·9	45·9	48·0	31·2
		Mysore	2,518	27·450		29·903	27·604	27·288	·316	·141	71·6	86·7		64·6		75·7		22·1	96·9	51·9	45·0	31·4

* Mean of 11 months. † Mean of 10 months.

I—*contd.*

at 214 stations in India, Burma, etc., in the year 1899—contd.

Wind direction. Number of winds from: Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Wind velocity. Mean velocity in miles per hour.	Normal.	Percentage variation.	Hygrometry 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
9	8	5	6	5	7	42	201	58	13·7	7·2	+90	57	·581	2·4	17	40·57	−23·57	8·07	25·60	−17·53	2·10	Malegaon.§	Khándesh.	40
63	50	16	9	27	8	15	89	78	10·3			57	·493	2·4	23			11·65	25·55	−13·90	1·64	Ahmednagar.		
59	6	16	24	51	12	28	74	95	7·6	5·5	+38	46	·442	3·1	26	50·58	−24·58	12·08	37·90	−25·82	2·12	Akola . . .	Berar.	41
	33	22	47	42	53	54	87	27	7·3	4·7	+57	53	·515	3·2	26	50·99	−24·99	13·68	37·41	−23·73	1·78	Amraoti.		
105	5	22	13	8	7	17	125	63	6·8	5·4	+26	47	·431	2·5	19	44·36	−25·36	8·88	33·29	−24·41	1·59	Khandwa . .	Central Provinces, West.	42
132	5	75	9	4	3	115	4	17	1·5	3·0	−50	69	·613	1·8	28	60·53	−32·53	23·14	56·58	−33·44	3·20	Hoshangabad.		
176	36	21	11	5	8	21	54	33	6·2	6·4	− 3	51	·487	3·7	35	64·93	−29·93	14·36	50·91	−36·55	1·46	Nagpur.		
113	23	22	32	17	16	26	95	21	3·3	3·7	−11	59	·556	3·8	35			22·73	58·53	−35·80	2·93	Chanda . .	Central Provinces, Central.	43
1	53	80	12	28	12	59	47	73	2·4	3·9	−38	54	·458	2·6	46	73·65	−27·65	24·44	58·89	−34·45	2·03	Seoni.		
26	12	13	11	56	87	54	83	23	2·5	3·3	−24	60	·481	2·5	35	65·62	−30·62	35·10	60·37	−25·27	4·93	Jubbulpore.		
12	23	24	33	41	49	45	127	20	5·9	3·5	+69	53	·488	2·4	32	56·93	−24·93	23·32	48·93	−25·61	3·61	Saugor.		
33	60	11	16	6	14	51	103	71	6·5	6·1	+ 7	54	·470	2·4	43	52·91	− 9·91	26·56	46·48	−19·92	2·58	Sutna . . .	Central India.	49
183	6	17	10	8	14	80	22	7	3·9	5·6	−30	55	·513	3·5	38	65·61	−27·61	27·12	52·52	−25·40	2·28	Raipur . . .	Central Provinces, East.	44
2	85	74	29	22	20	51	40	40	3·1	2·3	+35	66	·623	4·0	62			48·25	68·05	−19·80	5·88	Sambalpur.		
137	19	1	10	9	11	28	97	53	6·4			64	·625	3·7	38			19·49	37·40	−17·91	2·20	Indur.	Hyderabad, North	39
	54	21	23	35	32	97	69	34	8·2			71	·645	2·2	37			18·95	42·04	−23·09	3·05	Bidar.		
96	39	46	31	11	12	26	39	65	9·9*			57*	·523*	2·9	29			14·75	29·19	−14·44	1·67	Gulbarga . .	Hyderabad, South.	53
24	14	8	28	68	18	94	59	52	10·4			61	·575	1·8	24			12·12	28·22	−16·10	2·96	Raichur.		
160	7	1	17	22	4	1	119	31	4·9			63	·554	2·9	34			17·92	33·72	−15·80	3·48	Hyderabad (Dn).		
38	2	33	77	26	1	32	84	72	7·1	6·5	+ 9	61	·526	2·8	26			16·29	33·72	−17·43	1·89	Secunderabad.		
78	14		11	81	45	27	81	28	3·8			64	·622	3·2	32			16·96			2·93	Hanumkonda.		
																		69·32	103·13	−33·81		**X.—West Coast.**		
1	38	78	78	29	12	39	70	20	9·8	12·2	−20	76	·759	3·8	54	76·65	−22·65	35·90	74·12	−38·22	6·48	Bombay . .	Konkan.	37
67	21	22	43	78	16	27	54	37	5·7	10·2	−44	72	·712	3·7	64	97·80	−33·80	61·16	111·65	−50·49	8·67	Ratnagiri.		
18	67	13	53	77	16	24	11	86	8·7			83	·811	4·0	82			60·40	91·80	−31·40	3·27	Mormugao.		
21	32	55	128	11	10	26	52	29	‖			81	·788	4·6	77			56·00	103·32	−46·42	3·07	Goa.		
44	78	79	69	2	2	36	43	12	4·3			82	·724	3·4	83	109·07	−21·07	72·44	129·19	−56·75	3·46	Karwar.		
22	139	114	9	11	10	8	21	31	5·0			79	·798	4·3	111	132·16	−21·16	94·19	116·52	−22·33	4·15	Cochin . . .	Malabar.	38
113	28	43	79	30	9	4	10	49	9·0			82	·790	4·7	100	113·90	−13·90	97·94	113·13	−15·19	5·64	Calicut.		
152	11	18	77	49	5	4	22	27	2·4	3·4	−29	79	·772	6·5	97	118·30	−21·30	89·36	122·74	−33·38	5·58	Mangalore.		
37	103	22	28	10	2	1	15	97	5·7			81	·766	5·5	73			55·53	65·70	−10·07	5·53	Trivandrum.		
...	...	...	...	...	...	...	...	...	...		...	...	...	...	...	...	...	30·65	40·58	−9·93	...	**XI.—South India.**		
16	29	75	27	52	36	83	28	25	9·6			79	·852	2·9	47	33·10	+13·90	34·79	37·00	− 2·21	2·12	Pamban . .	Madras (South).	57
	73	28	1	2	3	14	76	163	5·9			66	·710	4·5	35	43·00	− 8·00	25·85	28·78	− 2·93	3·08	Tinnevelly.		
24	99	57	8	16	1	14	22	124	4·4	4·2	+ 5	70	·725	4·1	38	43·71	− 5·71	22·25	32·69	−10·44	2·09	Madura.		
32	5	55	42	3	15	102	38	11	4·5	4·4	+ 2	73	·706	3·7	43	66·50	−23·50	28·29	41·44	−13·15	4·49	Salem . . .	Madras (South Central).	3
	1	41	116	12	47	72	73	3	3·3	4·8	−31	77	·690	5·6	34	45·20	−11·20	19·26	21·24	− 1·98	2·86	Coimbatore.		
77	50	36	59	3	6	9	31	44	8·0	5·8	+38	83	·523	5·2	101	137·20	−36·20	91·12	129·37	−38·25	7·20	Mercara . .	Coorg.	35
13	4	4	51	50	10	91	110	32	9·0			68	·561	4·6	37			15·65	25·43	− 9·78	1·95	Chitaldroog.	Mysore.	36
6	3	38	77	24	18	70	113	16	8·6	5·2	+65	75	·559	4·5	49	61·68	−12·68	25·42	35·86	−10·44	1·81	Bangalore.		
1	7	44	66	46	9	47	63	59	3·5			72	·547	5·2	53			27·31	30·47	− 3·16	2·87	Hassan.		
5	13	63	37	13	19	98	97	19	10·0			74	·574	5·9	37			20·08	29·04	− 8·96	2·08	Mysore.		

§ Wind observation of 341 days.

Table

Abstract of observations taken at 8 A. M.

Number of District	Meteorological Province or District.	Station.	Elevation of Barometer above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to constant 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
56	Madras, East-Coast, South.	Negapatam	31	29·889	+·006	29·841	30·088	29·698	·390	·170	8·16*	91·8*	+1·9*	76·5*	+0·8*	84·2*	+1·3*	15·3*	104·5	66·0	38·5	25·5*
		Cuddalore	12	29·908		29·849	30·118	29·697	·421	·158	79·8	90·3		71·5		80·9		18·8	103·3	61·3	42·0	29·5
		Trichinopoly	255	29·671	+·004	29·861	29·867	29·465	·402	·152	79·5	94·3	+0·4	73·9	+0·2	84·1	+0·3	20·4	103·6	62·4	41·2	30·0
		Madras	22	29·898	+·006	29·851	30·126	29·667	·459	·166	81·0	91·4	+0·6	74·6	−0·1	83·0	+0·3	16·8	104·0	60·0	44·0	21·5
55	Madras, East-Coast, Central.	Nellore	71	29·831		29·836	30·071	29·582	·489	·177	81·4	95·6		75·0		85·3		20·7	109·4	59·1	50·3	31·3
		Masulipatam	15	29·890	+·020	29·839	30·150	29·611	·539	·184	81·4	91·5	+1·2	74·5	+0·3	83·0	+0·8	17·0	110·2	59·7	50·5	28·3
54	Madras, Central	Cuddapah	433	29·484	+·010	29·859	29·702	29·252	·450	·161	81·2	96·7	+2·2	74·2	0	85·5	+1·1	22·5	109·3	56·3	53·0	33·4
		Kurnool	923	28·982	+·008	29·859	29·214	28·744	·470	·165	76·5	95·2	+2·1	70·2	−0·3	82·7	+0·9	25·1	108·3	47·7	60·6	36·6
		Bellary	1,475	28·445	+·017	29·873	29·647	28·215	·432	·162	77·2	93·9	+0·9	70·5	+0·1	82·2	+0·5	23·4	106·7	52·6	54·1	36·7
52	Madras, East-Coast, North.	Cocanada	26	29·869	+·024	29·830	30·146	29·558	·588	·200	80·0	91·2	+2·0	75·1	+0·3	83·2	+1·2	16·1	110·5	58·5	52·0	28·3
		Waltair	226	?		?					80·5	87·9		75·3		81·6	0	12·6	101·6	59·6	542·0	23·8
		Gopalpur	21	29·843		29·804	30·194	29·454	·740	·228	77·7	86·7		72·3		79·5	0	14·4	102·3	50·1	02·2	26·0
		XII.—Hill Stations.		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
48	Baluchistan	Shahrig		25·724			26·050	25·360	·690	·275	67·9	83·5		54·9		69·2		28·6	110·0	20·0	90·0	38·5
		Pishin					Not recorded,					78·7		42·3		60·5		36·4	105·4	2·4	103·0	56·5
		Quetta	5,502	24·633	+·018		24·863	24·343	·520	·229	56·5	75·0	+1·7	44·3	−0·3	59·6	+0·7	30·7	99·1	10·8	88·3	49·1
		Kalat					Not recorded.				56·6	74·5		37·0		55·7		37·5	103·0	4·0	99·0	58·4
		Chaman	4,311	25·711			25·923	25·375	·548	·210	64·9	80·1		55·8		68·0		24·3	108·2	18·1	90·1	44·6
30	Punjab	Leh	11,503	19·726	+·028		19·968	19·492	·476	·280	36·3	53·5	−3·4	28·0	−1·9	40·8	−2·7	25·5	96·2	−19·0	105·2	43·9
		Srinagar	5,204	24·899			25·182	24·509	·673	·290	49·4	66·6		44·1		55·4		22·5	95·4	12·1	83·3	40·7
		Skardu		22·676			23·186	22·516	·670	·351	46·2	62·4		40·1		51·2		22·3	96·1	−2·0	98·1	43·1
		Dras		20·781			21·037	20·499	·538	·302	32·8	52·7		18·6		35·7		34·1	91·5	−35·5	127·0	58·7
		Gilgit		25·137			25·551	24·645	·906	·422	59·2	73·0		53·5		63·3		19·5	111·0	22·1	88·9	38·6
		Chitral		24·658			24·915	24 200	·715	·278	54·5	72·9		47·3		60·4		25·1	107·2	18·0	89·2	43·1
		Killa Drosh					Not recorded,				56·5	73·2		52·0		62·7		21·1	105·0	25·0	80·0	39·7
		Para Chinar	6,000								59·0	72·0		49·6		60·8		22·4	100·1	16·3	83·8	39·4
		Cherat		25·667			25·957	25·329	·628	·274	63·3	75·1		57·2		66·2		17·9	105·0	29·6	75·4	35·9
		Murree	6,333	23·815	−·003		24·055	23·568	·487	·210	57·2	66·1	+0·3	51·6	+0·8	58·9	+0·6	14·5	92·9	22·0	70·9	33·4
		Poo					Not recorded,					62·4		41·6		52·0		20·9	89·0	13·9	75·1	36·9
		Simla	7,224	23·102	+·010		23·331	22·962	·169	·213	53·7	61·6	+0·1	50·1	+0·1	56·0	+0·1	11·5	82·8	22·2	60·6	24·3
25	North-Western Provinces.	Chakrata	7,022	23·272	+·013		23·509	23·022	·487	·214	54·6	64·6	+0·4	49·7	+0·2	57·2	+0·3	14·9	81·8	21·3	60·5	28·7
		Mussooree	6,705	23·533			23·774	23·272	·502	·224	55·9	64·0		51·4		57·7		12·6	86·8	25·0	61·8	25·5
		Ranikhet	6,069	24·086	+·014		24·389	23·824	·565	·217	58·1	68·5	+0·8	53·9	+0·8	61·2	+0·3	14·6	89·1	27·0	62·1	28·0
		Muktesar		22·835			23·057	22·612	·445	·209	54·3	64·9		48·4		56·7		16·5	85·6	22·5	63·1	30·1
13	Bengal	Yatong	10,480†				Not recorded					53·3		35·3		44·3		18·1	69·1	10·9	58·2	31·3
		Darjeeling	7,409	22·969	+·002		23·184	22·795	·389	·201	51·3	59·3	0	43·0	0	53·7	0	11·3	73·2	26·3	46·9	22·0
		Gantok*	5,660	24·479			24·706	24·256	·450	·205	57·2	67·4		39·1		53·3		28·3	81·6	19·2	62·4	39·2
	Central India	Mount Abu	3,945	25·032	+·001		26·245	25·731	·514	·207	63·3	77·5	+1·2	6·29	+1·1	70·2	+1·2	14·5	93·2	37·5	55·7	26·7
		Pachmarhi	3,528	26·443	+·017		26·666	26·117	·549	·205	69·7	81·4	+2·3	61·1	+0·2	71,3	+1·3	20·3	100·2	30·3	69·9	34·4
	South India.	Wellington	6,200	24·249	−·010		24·363	24·115	·248	·117	61·8	72·2	+1·6	51·9	−1·7	62·1	−0·1	20·3	79·7	36·2	43·5	21·2

* Mean of 11 months.

I—*contd.*

at 214 stations in India, Burma, etc., in the year 1899—contd.

Wind direction. Number of winds from: Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Wind velocity: Mean velocity in miles per hour.	Normal.	Percentage variation.	Hygrometry 8 A.M.: Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall: Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
47	26	48	3	13	26	33	79	40	11·4	5·6	+104	74*	·793*	4·8	46	60·74	−14·74	65·23	54·56	+10·67	10·59	Negapatam	Madras, East-Coast, South.	56
	51	5	3	11	63	55	99	73	2·1			82	·820	2·4	54	56·80	− 2·80	51·36	47·34	+ 4·02	4·52	Cuddalore.		
144	33	13	2	2	1	36	109	25	6·0	5·8	+ 3	73	·726	4·3	32	45·45	−13·45	26·27	32·69	− 6·42	4·33	Trichinopoly.		
5	51	30	18	11	66	61	85	38	6·3	7·1	− 11	74	·778	4·6	40	60·53	−20·53	41·00	49·02	− 8·02	4·26	Madras.		
131	2			27	26	3	86	90	6·6			74	·790	5·5	31	44·30	−13·30	26·38	35·03	− 8·65	4·61	Nellore	Madras, East-Coast, Central.	55
62	76	24	6	24	38	25	54	56	7·8	7·0	+ 11	80	·841	4·4	36	55·24	−19·24	23·53	43·54	−20·01	4·05	Masulipatam.		
	2	47	37	79	16	47	73	64				66	·692	3·5	31	46·00	−15·00	17·54	34·18	−16·64	2·54	Cuddapah	Madras, Central.	54
199	11	1	10	8	7	4	100	25				61	·561	3·7	29	48·93	−19·93	14·49	30·06	−15·57	2·31	Kurnool.		
79	1	3	6	66	24	11	97	78	7·4	6·5	+ 14	51	·477	5·0	26	35·00	− 9·00	15·64	19·73	− 4·09	1·78	Bellary.		
12	69	42	6	7	14	71	95	49	7·6			70	·721	4·0	27	55·10	−28·10	16·06	44·54	−28·48	1·66	Cocanada.	Madras, East Coast, North.	52
19	11	34	13	12	6	84	103	45	11·8*			72	·764	4·7								Waltair‡		
20	96	2	3	1	30	117	16	80	12·7	9·6	+ 32	80	·776	1·7	47	61·35	−14·35	35·57	49·41	−13·84	4·68	Gopalpur.		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**XII.—Hill Stations.**		
79	11	4	4	38	4	81	55	88	5·4			44	·335	1·4	12			7·67	14·60	− 6·93	2·25	Shahrig	Baluchistan.	48
															13			5·95	10·61	− 4·66	1·07	Pishin.		
320	2		2	9	14	5	3	5	2·5	4·1	− 40	60	·288	2·0	20	22·45	− 2·45	7·33	10·89	− 3·56	0·98	Quetta.		
	7		43	3	230	14	24	41				48	·213	P	13			3·52	8·53	− 5·01	0·48	Kalat.		
	9	7	79	100	62	73	21	14	8·3			54	·361	1·3	17			5·26	7·43	− 2·17	1·03	Chaman.		
2	13	41	24	6	83	59	73	64	2·1			54	·139	4·6	10			3·00	3·17	− 0·17	0·55	Leh	Punjab.	30
138	14	16	22	72	57	8	13	27	5·0			87	·358	4·7	57			19·92	35·24	−15·32	1·60	Srinagar		
235	3	42	3		6	20	52	4	4·2			76	·261	4·3	17			5·40	13·32	− 7·92	0·56	Skardu.		
329	4	3	5	5	3	5	7	4	3·8			74	·179	4·3	50			21·21	24·25	− 3·04	1·38	Dras.		
300			3	2		26	30	3	1·8			47	·250	5·2	13			3·78	4·08	− 0·30	0·54	Gilgit.		
307	7	2	1	2	10	4	2	7	3·5			62	·287	3·3*	34			15·65			1·50	Chitral.		
138	9	5	94	16	23	19	61					54	·269	3·3	33			13·06			0·93	Killa Drosh.		
	73	63	18	24	8	33	34	112	4·8			51	·264	3·6	46			19·83			2·00	Para Chinar.		
34	150	17	2	17	60	8	9	68	14·3			50	·318	2·8	25			15·33	26·16	−10·83	2·83	Cherat.		
130	49	7	26	77	46	1	2	27	P	6·8	P	50	·255	2·4	57	67·56	−10·56	37·92	56·29	−18·37	2·21	Murree		
														3·7	13			5·47	18·56	−13·09	0·85	Poo.		
90	103	79	18	13	41	13	2	3	4·3	2·2	+ 95	54	·245	3·6	69	84·52	−15·52	42·58	64·1	−21·61	3·66	Simla.		
203	128	4		3	28	2		1	10·2	5·1	+100	57	·269	2·9	75			62·48	67·76	− 5·28	5·06	Chakrata.	North-Western Provinces.	25
1	90	31	50	15	9	10	70	140				58	·288	3·3	79	79·73	− 0·73	68·26	97·95	−31·69	4·95	Mussooree.		
151	7	23	17	18	17	77	30	25	3·2	2·1	+ 52	58	·323	3·3	59	77·29	−18·29	38·16	54·44	−16·28	2·20	Ranikhet.		
47	13	6	31	68	11	10	23	156	5·1			57	·258	3·8	70			43·20			3·08	Muktesar.		
															147			53·28			3·55	Yatung	Bengal.	13
153	3	40	63	46	7	13	22	8	3·6	3·4	+ 6	88	·360	5·5	133	125·43	+ 7·57	156·87	121·69	+35·18	19·40	Darjeeling.		
319	1	9		1		1			2·5			82	·412	4·2	183			142·58	143·89	+ 0·69	2·34	Gantok.§		
35	28	54	2	8	8	154	47	29	9·4	7·0	+ 34	49	·335	2·5	20	53·19	−33·19	11·42	66·87	−55·45	2·52	Mount Abu	Central India.	
178	13	8	6	6	9	18	56	69	7·7	5·2	+ 48	58	·426	3·4	43	80·37	−32·37	39·47	78·23	−38·76	6·10	Pachmarhi.		
219	32	36	12	10	17	29	6	4	3·1	3·3	− 6	54	·359	3·9	64	38·33	−24·33	39·38	52·98	−13·60	2·16	Wellington	South India.	

¶ Mean of 10 months. ‡ Wind observations of 327 days. § Wind observations of 331 days.

Table

Abstract of observations taken at 8 A.M.

Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
			Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to constant gravity (45° Lat.).	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
XIII.—Extra India.		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ceylon	Trincomalee	12	29·900		29·838	30·058	29·721	·337	·152	79·9	88·3		76·1		82·2		12·2	97·0	69·0	28·0	20·0
	Colombo	40	29·912	+·004	29·878	30·034	29·782	·252	·140	80·5	88·5		75·3		81·9		13·2	100·0	61·0	36·0	20·9
Persia	Meshed	3,104			Not	recorded.				57·3*			47·0						−2·6		
	Teheran		25·989			26·500	25·540	·960	·453	61·1	74·5		51·8		63·2		22·7	107·8	14·0	93·8	42·5
	Ispahan		24·354			24·680	24·050	·630	·335	57·6	75·2		45·7		60·5		29·6	104·0	12·4	91·6	41·0
	Bushire	14	29·878	+·019	29·850	30·302	29·396	·906	·316	74·5	81·9	−0·6	69·0	+0·7	75·7	0	13·0	115·0	43·3	71·7	31·2
	Jask		29·871			30·353	29·385	·968	·289	79·0	87·2		73·9		80·5		13·3	101·7	53·3	51·4	24·9
Arabia	Muscat	20	29·870		29·837	30·224	29·410	·814	·271	81·5	94·1		79·2		81·7		9·9	106·2	62·9	43·9	14·6
	Baghdad	221	29·795	+·003	29·996	30·269	29·287	·982	·378	67·5	86·7	+1·0	60·1	+1·1	73·4	+1·1	26·6	118·9	29·5	89·4	46·4
	Aden	94	29·846	+·015	29·872	30·065	29·570	·495	·173	81·6	87·6	−1·2	78·9	+0·6	82·3	−0·3	9·6	97·8	68·9	28·9	18·8
	Perim	201	29·700			29·814	29·443	·471	·176	82·5	90·1*		79·7*		84·9*		10·4*	101·1	71·4	29·7	17·6*
Afghanistan	Kabul					Not re	corded.			51·3	74·1		42·2		58·2		31·8	99·1	4·0	95·1	51·8
Central Asia	Kashgar		25·628			26·030	25·110	·920	·512	50·5	67·4		43·6		55·5		23·8	100·1	9·3	90·8	45·6
Arabian Sea Islands.	Amini Devi	13	29·951			30·089	29·782	·305	·162		87·6		76·9		82·3		10·7	93·5	67·4	26·1	18·5
	Minicoy	7	29·902		29·837	30·036	29·759	·277	·143	82·0	86·1							91·6			
Africa	Zanzibar	73	30·003	+·009*	30·004	30·179	29·814	·365	·135	78·2	83·3		76·1		79·7		7·1	89·1	68·9	20·2	12·5
	Do. Dunga					Not re	corded.			78·0	87·7		70·7		79·2		17·0	98·6	61·6	37·0	25·3

* Mean of 11 months.

Note.—When a query is inserted against any reading or in the variation returns for any station

I—*concld.*

at 214 stations in India, Burma, etc., in the year 1899—concld.

Wind direction. Number of winds from: Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Wind velocity. Mean velocity in miles per hour.	Normal.	Percentage variations.	Hygrometry 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.
...	...	...	..	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	**XIII.—Extra India.**	
48	5	61	2		1	227	16	5	7·5*			83	·854	2·7	74			61·93	75·24	−13·31	8·05	Trincomalee	Ceylon.
	47	52	33	37	26	110	55	5	8·6	7·6	+13	82	·853	4·9	77			73·82	90·04	−16·22	5·55	Colombo.	
												60	·283	?	25			10·13	7·88	+2·25	0·98	Meshed	Persia
169	28	24	6	1	9	22	6	6	3·2			43†	·258†	2·5	18			7·54	9·76	−2·22	0·82	Teheran.	
150	9	8	14	6	6	60	65	47	4·0			62	·321	2·3	12			4·03	4·69	−0·66	0·62	Ispahan.	
9	69	76	60	52	13	10	10	64	3·2			68	·594	2·1	17			3·65			1·85	Bushire.	
1	44	65	107	55	3	5	13	67	11·9			72	·735	1·9	8			4·78			2·32	Jask.‡	
74	19	14	11	74	6	28	36	103	4·7			65	·710	2·0	4			1·87	6·14	−4·27	0·93	Muscat	Arabia.
127	90	17	8	7	17	4	14	72	3·6			55	·356	2·0	11			3·63	10 62	−6·99	0·69	Baghdad.¶	
43	4	74	140	36	29	33	4	3	13·3	11·5	+16	71	·761	4·8	2			1·86	3·79	−2·43	0·90	Aden.	
32	10	52	125	56	33	22	27	8	14·7*			73	·818	4·3	6			3·68	1·71	+1·97	2·20	Perim.	
198	14	8	3	1	9	29	66	36						1·5	22			7·10	11·44	−4·34	1·00	Kabul	Afghanistan.
231	33	8	12	2	7	1	57	9	2·5*					4·2	8			2·26	4·41	−2·15	0·70	Kashgar ‡	Central Asia.
26	91	30	9	4	9	25	87	82						4·7	44			38·78			4·19	Amini Devi	Arabian Sea Island.
	79	58	17	15	8	22	82	84	7·9			77	·839	3·6	92			64·63			3·72	Minicoy.	
1	39	42	24	39	145	64	4	1	6·3			81	·782	6·7	82			66·69	55·30	+11·39	9·30	Zanzibar	Africa
20	32	78	18	32	34	122	14	10	7·2			83	·794	6·3	105			92·96			10·18	Do. Dunga.	

† Mean of 10 months.

‡ Wind variations of 360 days.

¶ Do. 356 „

the data for that station are not utilized in calculating the provincial variation.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

Meteorological Provinces.	Station.	Elevation of bar-cistern above sea level in feet.	Pressure.						Temperature of air.								
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean daily pressure.	Variation from normal.	Mean reduced to S. L. and for gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.
Burma Coast and Bay Islands.	Port Blair		29·377	29·780	·097	29·826	+·018	29·817	87·2	77·2	10·0	95·4	69·4	26·0	83·6	84·7	81·1	+0·4
	Rangoon		·384	·763	·121	·827	−·003	·801	89·2	72·2	17·0	102·5	58·2	44·3	81·8	85·4	78·7	−0·2
	Diamond Island		·388	·788	·100	·835	0	·812	85·1	71·0	8·1	91·1	69·2	21·9	82·1	82·3	79·9	+1·0
	Cocos Island	111	·303	·713	·090	·756	−·001	·738	86·4	77·4	9·0	96·8	70·4	26·4	83·2	83·2	80·3	+1·3
	Akyab		·384	·776	·108	·830	−·006	·793	85·4	73·3*	12·1	95·3	52·8	42·5	79·8	82·2	79·0*	+0·2
Bengal and Orissa	Chittagong		·300	·692	·108	·743	−·015	·778	84·3	69·0	15·3	94·3	46·8	48·1	79·4	81·7	76·2	−0·2
	Calcutta (Alipore)		·346	·733	·113	·787	+·002	·753	87·7	70·3	17·4	105·4	44·4	61·0	81·4	85·3	78·5	+0·6
	Saugor Island		·340	·733	·107	·794	+·002	·753	85·6	73·3	12·3	96·1	45·9	50·2	81·4	83·0	78·3	0
	False Point		·351	·746	·105	·799	−·005	·762	86·0	71·4	14·3	101·0	45·9	55·1	82·7	83·3	77·7	0
Gangetic Plain and Chota Nagpur.	Hazaribagh		27·845	27·747	·098	27·796	+·001	·738	85·4	65·9†	19·5	103·1	40·3	67·8	78·5	82·3	74·7	+0·6
	Darbhanga		29·690	29·568	·122	29·627	−·006	·748	85·3	68·7	16·6	106·1	44·2	61·9	79·0	83·8	76·3	−0·3
	Allahabad		·537	·424	·113	·476	−·003	·738	90·4	66·2	24·2	113·1	36·5	76·6	82·4	89·1	77·6	−0·2
Upper Sub-Himalayas.	Dehra Dun		27·614	27·526	·088	27·561	−·010	·751	82·6	60·5	22·1	104·6	35·1	69·5	74·1	78·4	70·3	−0·3
	Roorkee		28·939	28·831	·108	28·877	−·007	·730	88·5	61·8	26·7	112·3	32·7	79·6	78·3	86·1	74·3	+0·2
	Meerut		29·085	·981	·104	29·025	−·014	·728	90·2	64·4	25·8	111·5	35·8	75·7	79·2	87·1	76·4	+1·4
	Lahore		·115	29·019	·096	·059	·014	·729	90·5	65·2	25·3	114·5	32·0	82·5	79·7	89·8	77·2	+3·6
	Lahore (Newshed)								92·5	63·8	28·7	117·3	29·9	87·4	81·9	90·2	77·1	
	Ludhiana		·010	28·912	·098	28·954	−·008	·733	89·6	65·1	24·5	113·9	34·6	79·2	79·3	87·5	76·4	+2·4
Indus Valley and N.-W Rajputana.	Peshawar		28·729	·626	·103	·670	−·022	·763	87·3	60·6	26·7	115·5	28·9	86·6	78·4	84·6	72·8	+1·9
	Jacobabad		29·611	29·516	·125	29·571	−·012	·713	98·4	65·5	32·9	123·2	31·8	91·4	85·3	96·2	80·9	+1·9
	Kurrachee		·858	·763	·095	·809	+·005	·789	89·3	70·4	18·9	111·4	40·6	70·8	83·3	84·9	78·4	+1·0
Eastern Rajputana, Central India and Gujarat.	Jaipur		28·441	28·336	·105	28·383	+·006	·757	93·1	66·9	26·2	112·7	35·7	77·0	82·1	90·3	78·9	+2·8
	Udaipur		27·964	27·857	·107	27·911		·767	90·5	65·9	24·6	108·0	34·8	73·2	82·4	88·2	77·6	
	Deesa		29·420	29·296	·124	29·354	+·003	·767	96·1†	68·7	27·4	113·3	38·4	74·9	83·6	95·3	81·9†	+2·9
Deccan	Belgaum		27·388	27·285	·103	27·336	+·008	·775	84·5	63·4	21·1	100·6	47·8	52·8	78·2	81·3	72·8	+0·1
	Sholapur		28·325	28·185	·140	28·257	+·009	·766	95·0	68·9	26·1	109·7	49·2	60·5	84·6	92·3	80·9	+1·7
	Poona		·083	27·970	·113	·030	+·017	·789	91·5	68·8	27·7	105·0	43·5	61·5	82·2	89·4	76·8	+0·9
	Akola		·965	28·823	·142	·891	+·011	·760	96·4	67·7	28·7	112·7	39·5	73·2	86·7	94·6	81·7	+2·5
	Buldana	2,132	27·777	27·659	·118	27·715	+·012	·754	90·8	68·5	22·3	106·7	47·1	59·6	82·5	88·5	79·2	+2·1
	Khandwa		28·851	28·719	·132	28·782	+·018	·767	95·3	67·8	27·5	110·7	36·2	74·5	85·2	94·0	81·0	+2·8
	Nagpur		·845	·723	·132	·786	+·020	·753	95·1	69·4	25·7	114·2	40·4	73·8	84·6	92·0	81·6	+2·0
	Nagpur (Sanitary Commr.'s Office.)		·873	·742	·131	·805		·761	96·2	68·8	27·4	116·1	41·7	74·4	86·0	93·4	81·8	
	Hyderabad (Deccan)		·219	·099	·120	·159	+·013	·769	92·3	69·0	23·3	106·5	47·1	59·4	83·7	89·3	79·9	+1·3
West Coast	Bombay		29·900	29·798	·102	29·845	+·021	·821	88·3	75·2	11·1	93·7	59·1	34·6	81·2	83·6	80·0	+0·5
	Karwar		·907	·801	·106	·849	+·017	·825	86·3	72·0	14·3	93·6	58·8	34·8	80·6	84·3	78·6	−0·1
South India	Salem		·013	28·878	·140	28·951	+·002	·819	93·5	70·5	23·0	102·0	56·1	45·9	83·7	89·9	80·2	+0·5
	Chitaldroog		27·539	27·427	·112	27·485	+·012	·789	87·4	67·0	20·4	96·4	53·9	44·5	79·3	84·6	76·5	+0·7
	Bangalore		26·961	26·848	·113	26·910	+·007	·798	84·9	63·6	21·3	94·9	50·1	44·8	76·7	82·3	73·5	+0·6
	Hassan		·899	·801	·098	·856	+·011	·816	83·1	61·2	21·9	93·9	45·9	48·0	76·8	79·9	71·4	−0·1
	Mysore		27·453	27·336	·117	27·395	+·010	·807	86·8	64·6	22·2	95·7	51·7	45·0	78·4	83·7	75·0	−0·1
	Madras		29·906	29·792	1·4	29·852	+·011	·803	91·3	74·6	16·7	104·3	60·1	44·2	86·1	85·9	81·6	−0·1

* Mean of 9 months.

II.

at 62 Stations in India, Burma, etc., for the year 1899.

Temperature, Wet-bulb.				Vapour Tension.					Humidity.					Cloud.				Rainfall.		Station.	Meteorological Province.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Total rainfall for the year.	Heaviest rainfall during the year.		
74·5	78·5	78·6	77·2	·820	·905	·898	·874	—·008	87	79	76	81	−1	5·9	6·1	6·0	+0·5			Port Blair.	Burma Coast and Bay Islands.
70·3	75·5	76·0	73·9	·733	·807	·778	·772	−·006	91	74	66	77	0	5·0	5·5	5·3	−0·1			Rangoon.	
72·8	76·3	76·1	75·1	·758	·837	·824	·807	+·001	81	76	75	77	+2	4·7	4·9	4·8	−0·4			Diamond Island.	
73·0	77·3	77·0	75·8	·775	·852	·856	·827	+·009	81	76	75	77	−2	4·9	5·1	5·0	−0·1	57·98	4·11	Cocos Island.	
70·9*	75·6	76·9	75·2*	·749*	·847	·865	·841*		88*	81	77	83*		4·9	4·7	4·8	+0·3			Akyab.	
68·0	74·1	74·9	72·3	·701	·790	·792	·761	+·011	95	77	72	81	+2	4·1	4·2	4·3	−0·3			Chittagong .	Bengal and Orissa.
68·5	74·0	74·0	72·2	·705	·770	·719	·731	−·005	91	69	58	73	−3	4·5	4·5	4·5	+0·2			Calcutta (Alipore).	
71·0	76·0	76·1	74·3	·758	·848	·830	·812	—·005	89	77	71	79	−1	5·4	5·0	5·2	+0·3			Saugor Island.	
70·5	76·7	77·2	73·8	·760	·855	·867	·827	+·032	95	75	75	81	+1	5·1	5·0	5·1	+0·3			False Point.	
59·5	64·6	65·3	63·2	·464	·462	·438	·454	−·021	68	47	41	52	−5	4·6	5·3	5·0	+0·3			Hazaribagh .	Gangetic Plain and Chota Nagpur.
66·2	71·9	73·0	70·4	·652	·722	·697	·690	+·019	87	70	60	72	+2	2·8	2·4	2·6	−0·2			Darbhanga.	
61·4	69·1	70·7	67·1	·523	·566	·530	·539	−·032	73	51	40	56	−5	2·9	2·8	2·9	−0·3			Allahabad.	
55·4	62·5	63·7	60·5	·409	·451	·436	·432	−·034	72	52	44	56	−7	2·9	3·5	3·2	−0·7			Dehra Dun .	Upper Sub-Himalayas.
56·7	65·0	66·3	62·6	·444	·475	·415	·444	−·051	73	48	33	52	−7	2·1	2·2	2·2	−1·0			Roorkee.	
58·2	66·5	69·1	64·6	·453	·522	·507	·494	−·019	69	50	38	52	−6	2·7	2·9	2·8	−0·2			Meerut.	
57·8	65·0	68·0	63·6	·435	·463	·426	·441	−·043	63	44	30	45	−6	2·5	2·3	2·4	−0·3			Lahore.	
57·5	65·8	68·2	63·9	·445	·462	·429	·445		68	41	30	46								Lahore(Newshed)	
58·1	63·8	66·0	62·6	·437	·423	·384	·415	−·091	66	42	29	45	−14	2·3	2·6	2·5	−1·0			Ludhiana.	
53·7	63·4	65·0	60·7	·374	·441	·412	·409	−·016	64	44	34	47	−6	2·2	3·2	2·7	−0·5			Peshawar .	Indus Valley and N.-W. Rajputana.
57·6	68·0	72·0	65·9	·426	·500	·501	·476	+·016	61	33	26	42	−2	1·3	1·5	1·4	−0·5			Jacobabad.	
65.2	72·7	75·0	71·0	·597	·696	·761	·685	+·016	74	59	62	65	−1	2·3	1·9	2·1	−1·0			Kurrachee.	
57·5	66·2	68·2	64·0	·399	·449	·433	·427	−·037	54	36	29	40	−10	2·3	3·3	2·8	−0·7			Jaipur . .	Eastern Rajputana, Central India and Gujarat.
57·2	63·5	64·9	61·9	·397	·372	·342	·370		57	36	26	39		1·7	2·3	2·0				Udaipur.	
59·3	67·2	68·4	65·0	·423	·429	·351	·401	−·079	53	33	21	36	−10	2·1	1·9	2·0	−1·4			Deesa.	
60·8	65·5	66·7	64·3	·513	·480	·482	·491	−·029	86	52	43	62	−2	3·5	4·3	3·9	−0·7			Belgaum . .	Deccan.
59·9	66·2	67·7	64·6	·429	·426	·380	·412	−·081	57	36	26	40	−11	3·3	4·9	4·1	−0·7			Sholapur.	
60·1	65·2	66·5	63·9	·500	·423	·388	·437	−·043	80	39	32	50	−3	3·5	4·2	3·9	−0·5			Poona.	
59·1	67·7	69·6	65·4	·427	·442	·400	·422	−·070	56	35	26	39	−12	3·0	3·9	3·5	−0·3			Akola.	
57·5	63·7	64·8	62·0	·358	·371	·329	·353	−·113	49	34	26	36	−16	2·9	3·8	3·4	−0·7	13·50	1·36	Buldana.	
57·8	66·3	68·3	64·1	·391	·430	·383	·401	−·096	52	35	25	38	−15	2·6	3·5	3·1	−0·4			Khandwa.	
60·7	68·3	70·0	66·3	·455	·500	·473	·476	−·053	58	42	32	44	−10	3·5	4·8	4·2	−0·3			Nagpur	
59·6†	68·3	70·4	65·7†	·442†	·490	·471	·455†		61†	40	31	43†		2·7	4·0	3·4				Nagpur (Sany. Commr.'s Office).	
63·2	69·1	69·7	67·3	·525	·540	·491	·519	−·059	72	47	37	52	−9	2·8	4·2	3·5	−0·3			Hyderabad (Deccan).	
69·3	74·0	75·5	72·9	·651	·754	·780	·729	−·047	73	70	68	70	−6	3·3	3·1	3·2	−1·0			Bombay . .	West Coast.
69·8	73·5	75·1	72·3	·712	·739	·752	·734	−·031	89	70	64	75	−3	3·1	3·3	3·2	−0·5			Karwar.	
68·4	73·2	74·8	72·1	·678	·688	·656	·674	−·008	90	60	48	66	−2	4·0	5·2	4·6	0			Salem . .	South India.
61·8	67·3	67·6	65·5	·496	·528	·470	·498	−·009	74	53	41	56	−2	4·4	4·9	4·7	−0·4			Chitaldroog.	
60·9	66·0	66·2	64·4	·514	·524	·462	·500	−·034	87	57	43	62	−4	4·0	4·9	4·5	−0·1			Bangalore.	
59·6	65·3	65·3	63·1	·504	·496	·461	·487	−·040	91	54	37	61	−5	5·2	6·3	5·8	−0·2			Hassan.	
62·0	67·1	67·1	65·2	·532	·530	·472	·511	−·038	86	54	42	60	−4	6·0	6·4	6·2	+0·7			Mysore.	
	75·7	76·4	75·1		·752	·784	·783	+·004		61	61	74	0	4·9	4·8	4·9	−0·1			Madras.	

† Mean of 11 months.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

Meteorological Province.	Station.	Elevation of Bar-Cistern above sea level in feet.	Pressure.						Temperature of air.									
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean daily pressure.	Variation from normal.	Mean reduced to 32° F. and for gravity, 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.
South India—concld.	Bellary		28·452	28·315	·137	28·386	+·006	29·784	93·8	70·5	23·3	106·8	52·7	54·1	84·4	90·7	81·0	+0·4
	Cocanada		29·879	29·754	·125	29·814	+·010	·776	91·2	75·1	16·1	110·2	58·5	51·7	85·2	88·2	82·4	+1·0
Hill Station, Baluchistan.	Quetta		24·644	24·568	·076	24·598	+·015		75·0	44·2	30·8	98·9	10·6	88·3	66·6	71·8	58·8	+0·7
Hill Stations, Northern India.	Leh		19·729	19·635	·094	19·688	+·024		53·6	28·0	25·6	86·2	−19·5	105·7	43·1	50·3	40·3	−0·9
	Srinagar		24·913	24·821	·092	24·860	+·011		66·6	44·1	22·5	95·4	12·1	83·3	55·9	64·4	51·8	+0·5
	Kailang	10,087	20·961	20·883	·078	20·929	?		56·0	31·1	24·9	83·3	−6·5	89·8	46·0	49·2	40·9	0
	Simla (Ridge)		23·124	23·073	·051	23·091	+·012		61·7	50·1	11·6	82·8	22·2	60·6	56·9	58·7	55·1	−0·4
	Chakrata		·293	·236	·057	·257	+·004		64·7	49·7	15·0	81·6	21·1	60·5	59·6	59·4	55·3	0
	Ranikhet		24·106	24·036	·070	24·059	+·007		68·6	53·9	14·7	89·1	27·2	61·9	63·4	64·3	60·3	+0·5
	Muktesar		22·857	22·799	·058	22·828			65·0	48·4	16·6	85·6	22·5	63·1	58·9	60·3	55·6	
	Katmandu	4,388	25·556	25·465	·091	25·509	?		77·3	53·7	23·6	94·8	29·4	65·4	68·2	72·1	61·3	−0·5
	Darjeeling		22·981	22·927	·054	22·958	+·005		58·3	47·9*	10·4	73·2	26·3	49·9	54·1	55·1	52·8*	−0·1
Hill Stations, Central India.	Mount Abu		26·050	25·980	·070	26·011	−·001		77·5	62·9	14·6	93·0	37·7	55·3	72·4	75·5	69·7	+1·5
	Pachmarhi		·459	26·368	·091	·411	+·014		81·9	61·1	20·3	100·2	30·3	69·9	75·6	79·6	70·9	+1·3
	Chikalda	3,642	·350	·254	·096	·299	+·015		81·8	65·1	16·7	97·6	43·4	54·2	75·0	80·1	73·2	+1·9
Hill Station, South India.	Wellington		24·259	24·190	·069	24·225	0		72·2	51·9	20·3	79·5	36·1	43·4	68·2	67·2	60·8	−0·2
Extra India	Aden		29·857	29·744	·113	29·797	+·023	·823	87·6	78·0	9·6	97·7	68·9	28·8	82·5	85·9	82·6	+0·4
	Perim		·713	·599	·114	·652	+·016		90·1*	79·7*	10·4	101·5	71·4	30·1	85·7	86·4	84·1*	−0·3
	Minicoy		·914	·821	·093	·866		·800	86·1			91·6			83·9	83·5		
	Zanzibar	15	30·010	·894	·116	·952	+·009	·952	83·8	76·1	7·2	89·4	68·9	20·5	79·5	82·6	79·5	0
	Port Victoria (Seychelles).	181	29·996	·911	·085	·954	+·016	·893	82·5	75·5	7·0	86·9	69·9	17·0	81·3	81·7	78·8	−0·5

II—*concld.*

at 62 Stations in India, Burma, etc., for the year 1899—concld.

Temperature, Wet-bulb.				Vapour Tension.					Humidity.					Cloud.				Rainfall.		Station.	Meteorological Provinces.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Total rainfall for the year.	Heaviest rainfall during the year.		
62·8	66·9	68·9	66·2	·436	·449	·439	·458	−·091	64	38	31	45	−9	5·2	6·4	5·8	+0·8			Bellary.	South India—concld.
71·4	74·3	74·5	73·4	·736	·712	·680	·709	−·051	83	59	52	64	−7	3·6	3·7	3·7	+0·1			Cocanada.	
38·4	51·3	53·9	47·6	·191	·242	·225	·219	−·030	62	37	30	43	−7	2·1	2·9	2·5	+0·3			Quetta	Hill Station, Baluchistan.
24·0	33·4	36·0	31·8	·149	·138	·151	·146	0	65	44	42	50	0	4·5	5·4	5·0	−0·4			Leh.	Hill Stations, Northern India.
42·2	53·0	60·8	52·0	·279	·428	·530*	·393*	+·058	87	33	31*	81*	+7	4·2	5·0	4·6	+0·1			Srinagar.	
29·0	37·7	38·7	35·1	·164	·188	·170	·174	−·007	82	53	46	60	−2	4·8	6·4	5·6	+0·1	15·60	1·42	Kailang.	
43·7	47·7	49·1	46·8	·239	·258	·273	·256	−·032	61	51	51	54	−6	3·9	4·7	4·3	−0·8			Simla (Ridge).	
44·1	49·8	49·9	47·9	·254	·280	·283	·273	−·029	65	52	53	57	−7	3·4	4·7	4·1	−0·5			Chakrata	
38·0	54·2*	55·1*	52·3*	·294	·328*	·338*	·324*	−·034	66	52*	50*	56*	−8	3·4	3·7	3·6	−0·9			Ranikhet.	
42·9	49·2	50·6	47·5	·240	·273	·290	·268		64	51	53	56		3·7	4·9	4·3				Muktesar.	
52·4	60·4	62·2	58·3	·415	·465	·464	·448	0	91	61	56	71	−1	3·7	4·7	4·2	−0·4	49·08	2·36	Katmandu	
46·2	51·9	52·6	50·2	·335*	·385	·391	·379*	+·014	93*	86*	85	88*	+3	6·3	6·9	6·6	0			Darjeeling	
53·4	58·0	59·3	56·9	·315	·334	·334	·327	−·038	53	43	37	44	−8	2·5	2·4	2·5	−1·2			Mount Abu	Hill Stations, Central India.
54·3	62·2	63·8	60·3	·385	·422	·428	·412	−·001	68	48	43	53	−4	3·3	4·1	3·7	−0·4			Pachmarhi	
56·5	60·8	62·9	60·1	·374	·381	·385	·380	−·052	59	46	39	48	−10	2·8	3·9	3·4	−1·0	23·97	4·06	Chikalda.	
48·9	57·5	58·6	54·9	·324	·370	·406	·367	−·025	81	54	62	66	−6	4·7	6·1	5·4	−0·4			Wellington	Hill Station, South India.
70·9	75·0	73·8	73·2	·667	·747	·680	·698	−·042	70	63	55	63	−4	4·3	2·5	3·4	+1·0			Aden.	Extra India.
73·7	76·9	77·0	75·8	·761*	·816	·809	·802*	+·035	76*	66	64	68*	+4	2·9	2·3	2·6	+0·6			Perim.	
	77·2	76·8			·844	·835				73	73			3·5	4·0	3·8				Minicoy.	
72·1	74·4	74·5	73·7	·738	·789	·743	·758	−·034	82	78	67	76	−3	6·4	5·2	5·8	+1·0			Zanzibar.	
72·2	75·2	75·4	74·3	·749	·795	·796	·779	−·006	85	75	73	78	0	5·6	5·7	5·7	−0·5	90·53	7·54	Port Victoria (Seychelles).	

* Mean of 11 months.

EXPLANATION OF PLATES.

PLATE I.—A chart of India showing the 11 meteorological provinces and 57 districts of India.

PLATE II.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of January and February 1899. This chart and the three following charts have been prepared to illustrate the data given in Table XX. These charts are drawn up in the same manner as the rainfall chart (Plate V) in the Monthly Weather Reviews of the year 1899.

PLATE III.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of March to May 1899.

PLATE IV.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of June to October 1899.

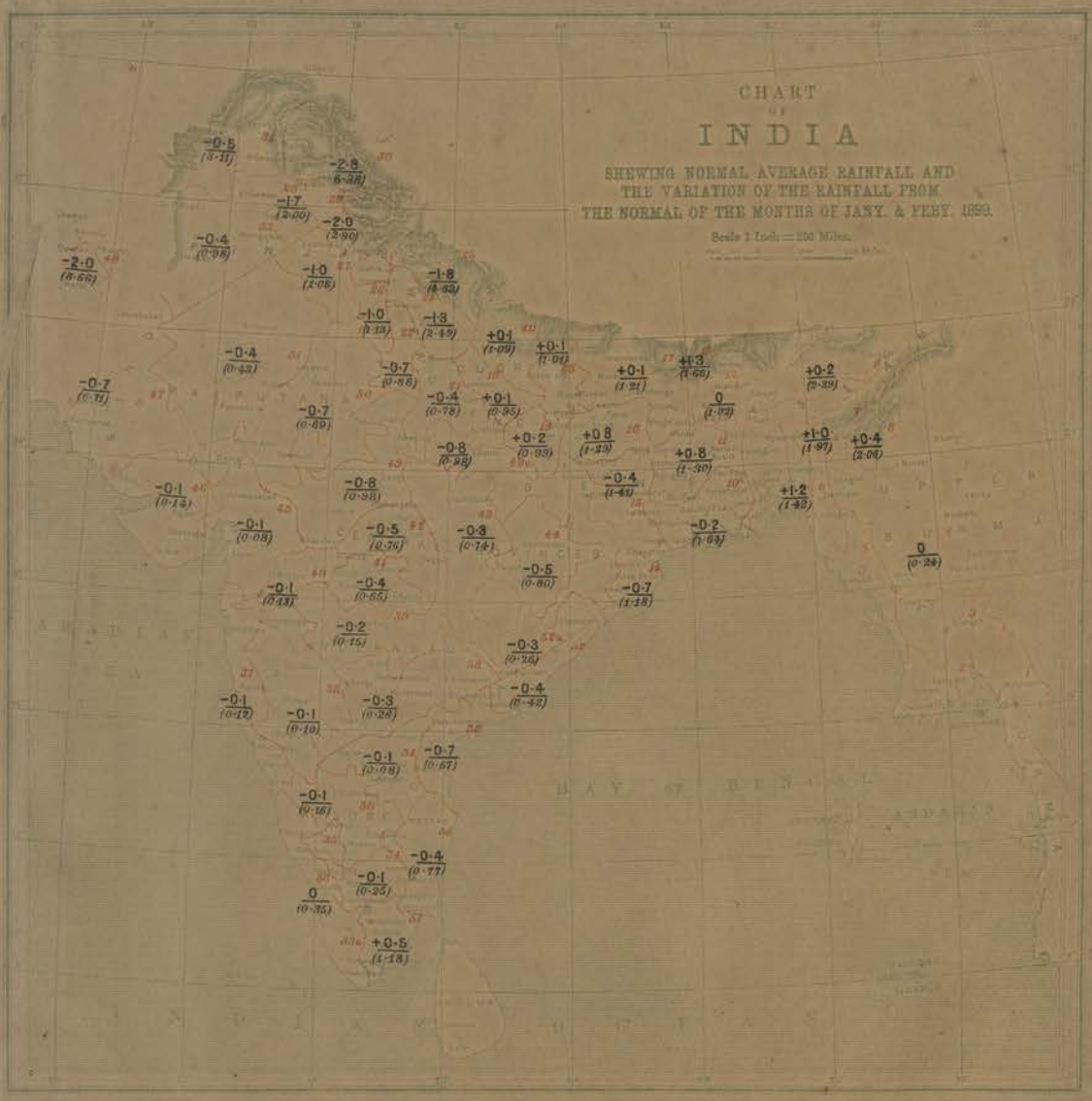
PLATE V.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of November and December 1899.

PLATE VI.—Chart showing the tracks of the more important cyclonic storms of 1899 in the Indian area during the south-west monsoon, a brief summary of which is given on pages 719 and 720.

Explanation.

The name of the districts can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

1. Tenasserim	17. North Bihar	33. Malabar	48. Baluchistan Hills
2. Lower Burma Deltaic	18. North Western Provinces, East	33a Travancore	49. Central India, East
3. Central do.	19. South Oudh	34. Madras, South Central	49a Do. do.
4. Upper do.	20. North do.	35. Coorg	50. Rajputana East, Central India West
5. Arakan	21. North Western Provinces, Central	36. Mysore	51. West Rajputana
6. East Bengal	22. Do. do., West	37. Konkan	52. Madras, East Coast, North
7. Assam, Surma	23. Do. do., East Submontane	38. Bombay Deccan	52(a). Do. do. do. (a)
8. Do., Hills	24. Do. do., West do.	39. Hyderabad, North	53. Hyderabad, South
9. Do., Brahmapatra	25. Do. do., Hills	40. Khandesh	54. Madras, Central
10. Deltaic Bengal	26. South East Punjab	41. Berar	55. Madras, East Coast, Central
11. Central do.	27. South do.	42. Central Provinces, West	56. Do. East Coast, South
12. North do.	28. Central do.	43. Do., Central	57. Madras, South
13. Bengal Hills	29. Punjab, Submontane	44. Do., East	
14. Orissa	30. Do., Hills	45. Gujarat	
15. Chota Nagpur	31. North Punjab	46. Kathiawar	
16. South Bihar	32. West do.	47. Sind	



Explanation.

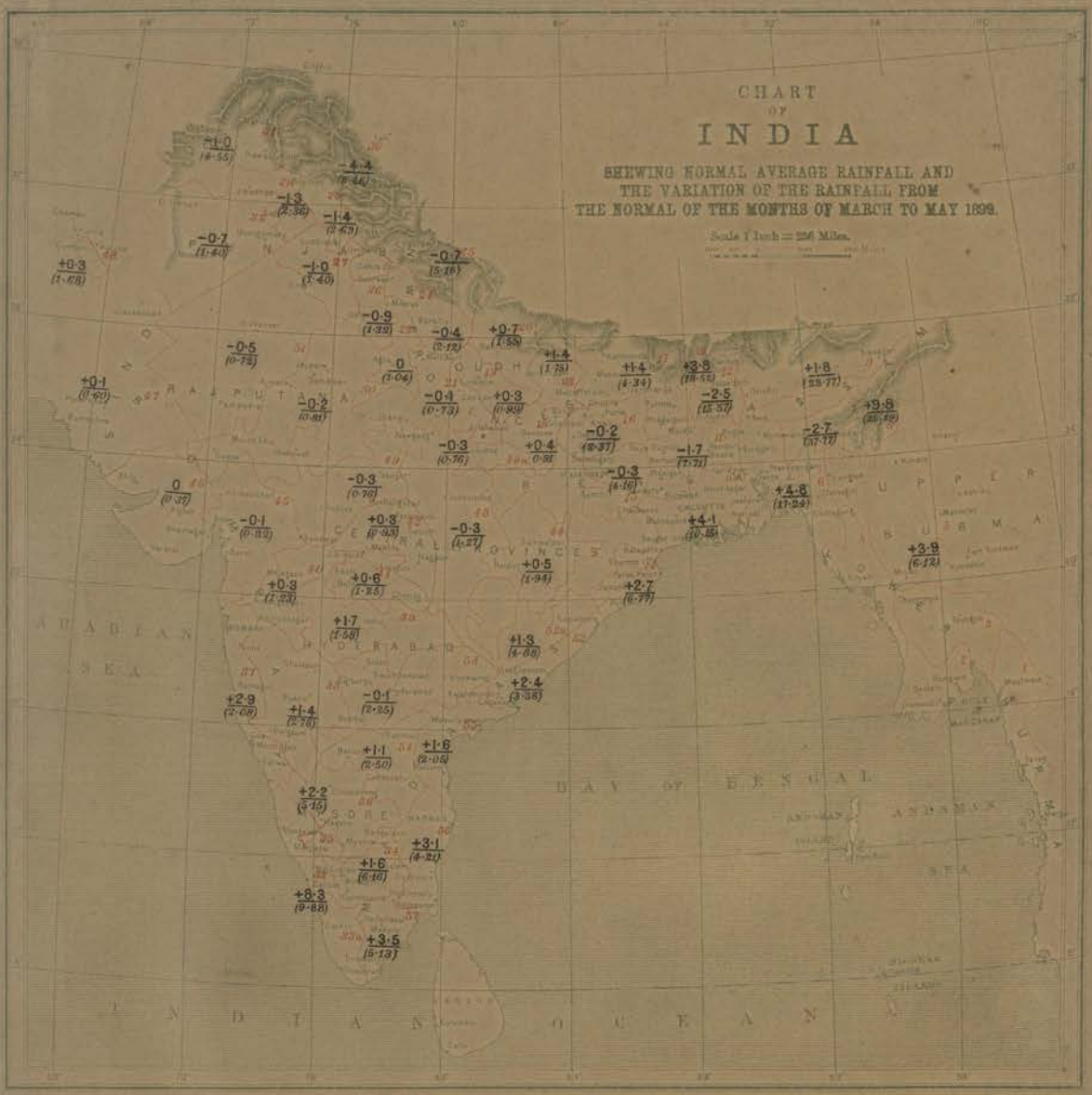
The Chart gives the variations of the rainfall of the months (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character, and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division, (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring to the following list to the number given near the right hand boundary of each district in small slanting red figures.

1. Tenasserim
2. Lower Burma Delhie
3. Central do.
4. Upper do.
5. Arakan
6. West Bengal
7. Assam Proper
8. Do. Hills
9. Do. Brahmaputra
10. Delta Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Behar
17. North Behar
18. North Western Provinces, East
19. South Oudh
20. North do.
21. North Western Provinces, Central
22. Do. do. West
23. Do. do. Hill Submontane
24. Do. do. West do.
25. Do. do. Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do. Hills
31. North Punjab
32. West do.
33. Malabar
33a. Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do. Central
44. Do. East
45. Chanda
46. Kathiawar
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. do.
50. Rajputana East, Central India
51. Do. West
52. West Rajputana
53. East Coast, North
53a. Do. do.
54. Hyderabad, South
55. Madras, Central
56. East Coast, Central
56. East Coast, South
57. Madras, South

Explanation.

The Chart gives the variations of the rainfall of the months (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character, and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division, (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring to the following list to the number given near the right hand boundary of each district in small slanting red figures.

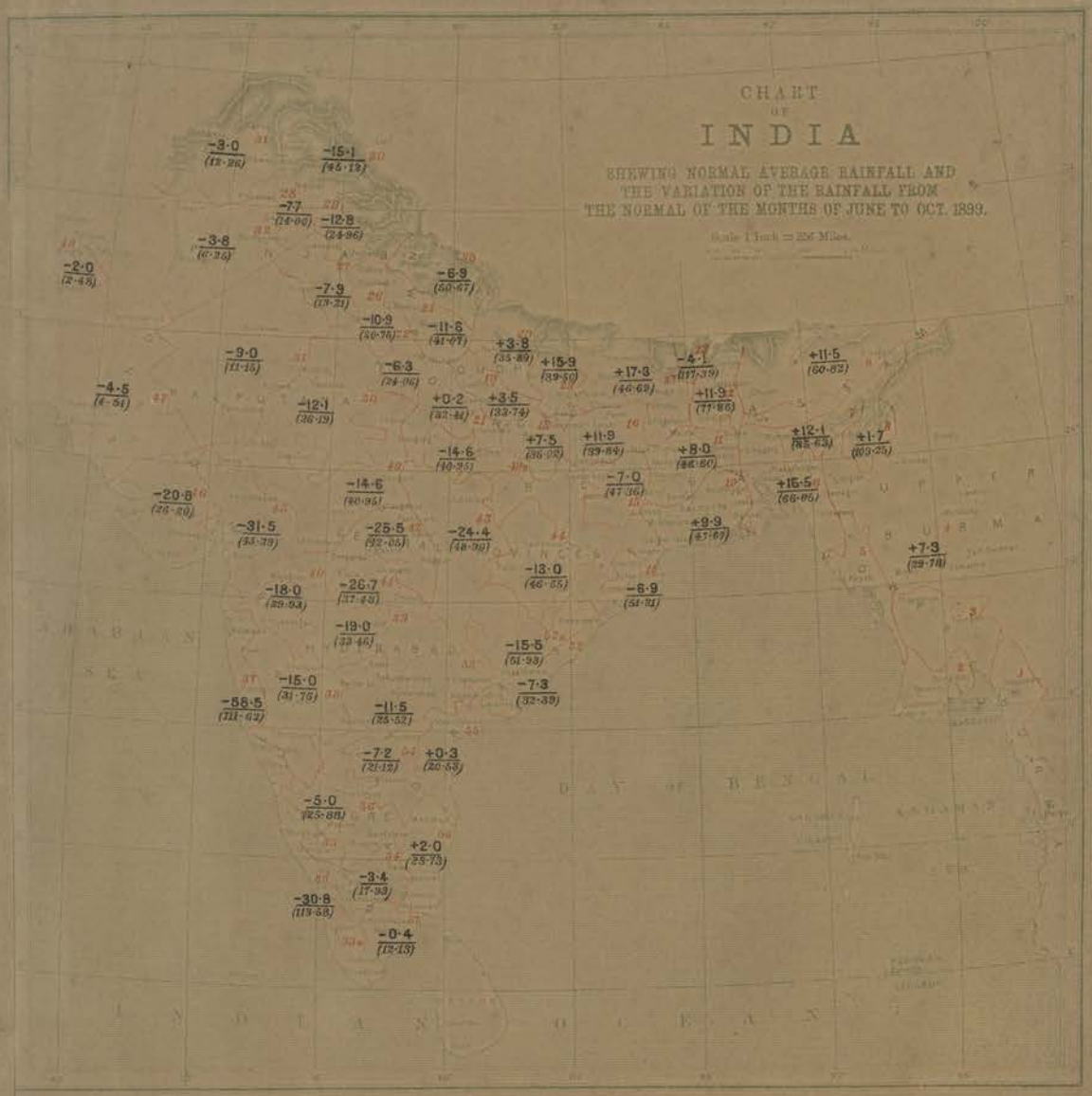
1. Tenasserim	17. North Behar	33. Malabar	49. Central India, East
2. Lower Burma Delhie	18. North Western Provinces, East	33a. Travancore	49a. Do. do.
3. Central do.	19. South Oudh	34. Madras, South Central	50. Rajputana East, Central India
4. Upper do.	20. North do.	35. Coorg	51. Do. West
5. Arakan	21. North Western Provinces, Central	36. Mysore	52. West Rajputana
6. West Bengal	22. Do. do. West	37. Konkan	53. East Coast, North
7. Assam Proper	23. Do. do. Hill Submontane	38. Bombay Deccan	53a. Do. do.
8. Do. Hills	24. Do. do. West do.	39. Hyderabad, North	54. Hyderabad, South
9. Do. Brahmaputra	25. Do. do. Hills	40. Khandesh	55. Madras, Central
10. Delta Bengal	26. South East Punjab	41. Berar	56. East Coast, Central
11. Central do.	27. South do.	42. Central Provinces, West	56. East Coast, South
12. North do.	28. Central do.	43. Do. Central	57. Madras, South
13. Bengal Hills	29. Punjab, Submontane	44. Do. East	
14. Orissa	30. Do. Hills	45. Chanda	
15. Chota Nagpur	31. North Punjab	46. Kathiawar	
16. South Behar	32. West do.	47. Sind	
		48. Baluchistan Hills	



Explanation.

The Chart gives the variations of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

1. Tenasserim
2. Lower Burma Deltaic
3. Central do.
4. Upper do.
5. Arakan
6. East Bengal
7. Assam, Surma
8. Do., Hills
9. Do., Brahmaputra
10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. North Western Provinces, East
19. South Oudh
20. North do.
21. North Western Provinces, Central
22. Do. do. West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do. Hills
31. North Punjab
32. West do.
33. Malabar
33a. Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. do.
50. Rajputana East, Central India West
51. West Rajputana
52. East Coast, North
52(a). Do. do. (a)
53. Hyderabad, South
54. Madras, Central
55. East Coast, Central
56. East Coast, South
57. Madras, South



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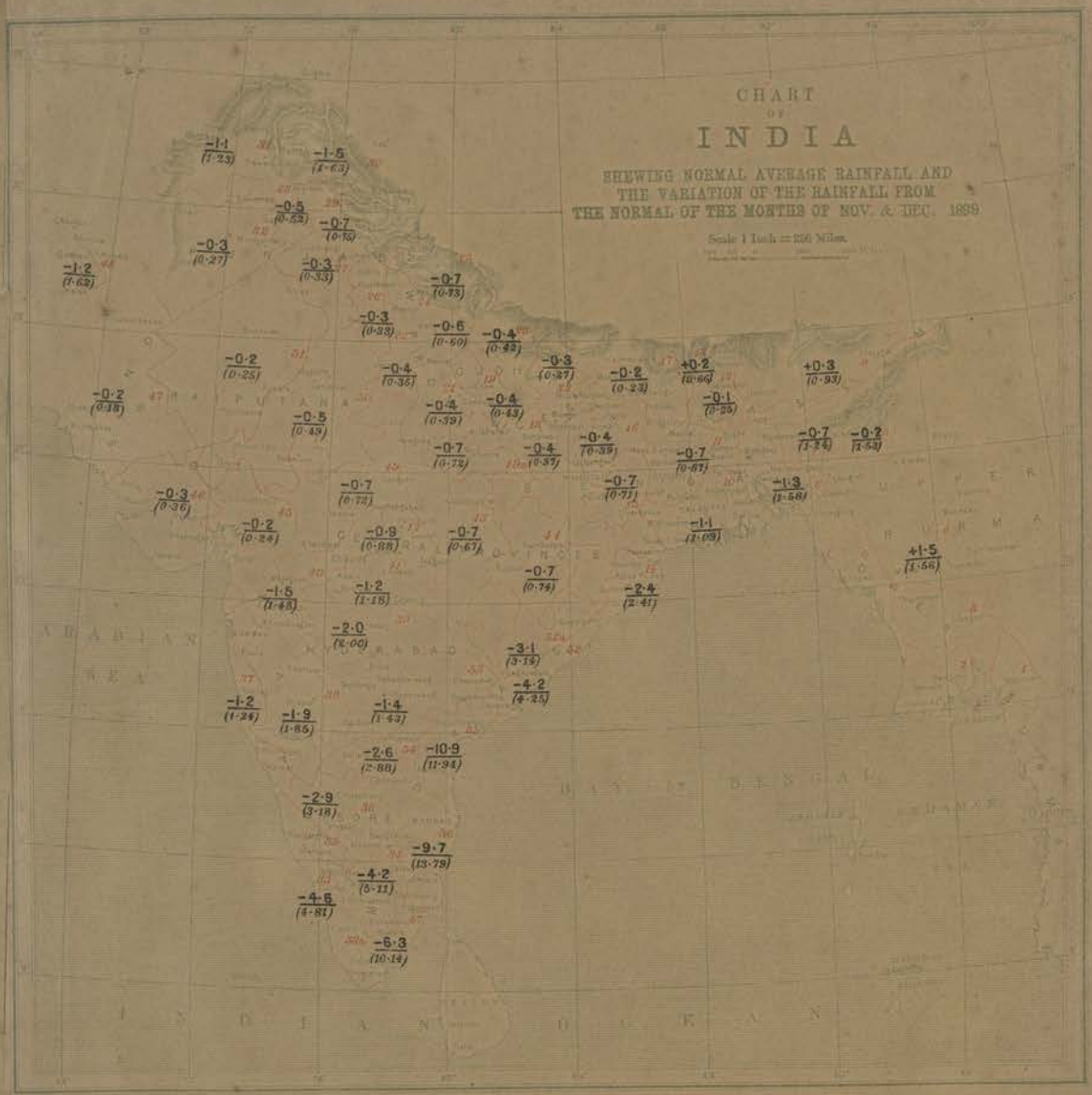
The Chart gives the variations of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right-hand boundary of each district in small slanting red figures.

1. Tenasserim	17. North Bihar	33. Malabar	49. Central India, East
2. Lower Burma Deltaic	18. North Western Provinces, East	33a. Travancore	49a. Do. do.
3. Central do.	19. South Oudh	34. Madras, South Central	50. Rajputana East, Central India, West
4. Upper do.	20. North do.	35. Coorg	51. West Rajputana
5. Arakan	21. North Western Provinces, Central	36. Mysore	52. East Coast, North
6. East Bengal	22. Do. do. West	37. Konkan	52(a) Do. do. (b)
7. Assam, Surma	23. Do. do. East Submontane	38. Bombay Deccan	53. Hyderabad, South
8. Do. Hills	24. Do. do. West do.	39. Hyderabad, North	54. Madras, Central
9. Dhar, Brahmaputra	25. Do. do. Hills	40. Khandesh	55. East Coast, Central
10. Deltaic Bengal	26. South East Punjab	41. Berar	56. East Coast, South
11. Central do.	27. South do.	42. Central Provinces, West	57. Madras, South
12. North do.	28. Central do.	43. Do. Central	
13. Bengal Hills	29. Punjab, Submontane	44. Do. East	
14. Orissa	30. Do. Hills	45. Gujarat	
15. Chota Nagpur	31. North Punjab	46. Kathiawar	
16. South Bihar	32. West do.	47. Sind	
		48. Baluchistan Hills	



Explanation.

The Chart gives the variations of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

1. Tenasserim
2. Lower Burma Deltaic
3. Central do.
4. Upper do.
5. Arakan
6. East Bengal
7. Assam, Surma
8. Do., Hills
9. Do., Brahmaputra
10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. North-Western Provinces, East
19. South Oudh
20. North do.
21. North-Western Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South-East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., Hills
31. North Punjab
32. West do.
33. Malabar
33a. Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. do.
50. Rajputana East, Central India West
51. West Rajputana
52. East Coast, North
52a. Do. do.
53. Hyderabad, South
54. Madras, Central
55. East Coast, Central
56. East Coast, South
57. Madras, South

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GOVERNMENT OF INDIA.

METEOROLOGICAL DEPARTMENT.

THE

INDIA WEATHER REVIEW

FOR THE YEAR

1900.

Published by authority of the Government of India.

UNDER THE DIRECTION OF

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ANNUAL SUMMARY, 1900.

INTRODUCTION.

The present annual summary completes the discussion of the meteorology of India for the year 1900.

It should be noted that in the monthly reviews it is attempted to present the facts and data from two different points of view. Meteorological data in India are chiefly utilized for the following purposes:—

1st.—In the discussion of the prevalence and spread of diseases, more especially of cholera and other diseases of an epidemic character.

2nd.—In connection with agricultural questions, more especially the progress and character of the crops as determined by the weather conditions of the period.

India has hence been divided into two groups of divisions from what may be termed the medical and agricultural stand-points. For the comparison of medical and meteorological statistics, India is arranged into the following provinces, which are believed to be fairly homogeneous so far as the conditions of the prevalence of the more common diseases are concerned:—

(1) Burma Coast and Bay Islands.
(2) Burma Inland.
(3) Assam.
(4) Bengal and Orissa.
(5) Gangetic Plain and Chota Nagpur.
(6) Upper Sub-Himalayas, including the sub-montane districts of the North-Western Provinces and the Punjab and the meteorological divisions of the South-East, South, Central and North Punjab.
(7) Indus Valley and North-West Rajputana.
(8) East Rajputana Central India and Gujarat.
(9) Deccan.
(10) West Coast.
(11) South India.

The data for each of these divisions are given in Table I in large figures, and the portion of each monthly review, entitled, "Summary of the chief features of the weather in India during the month," is intended to give a sketch of the broader and more important features of the weather in India for the use of those who study the relations between the prevalence and spread of diseases and the weather conditions prevailing at the time in India.

According to the second method of arrangement, India is divided into 57 meteorological districts or divisions from the agricultural standpoint, each of which is fairly homogeneous so far as the distribution of rainfall and the general character of the crops and the conditions of their growth are concerned. The following gives the two series of divisions arranged under the respective political areas or provinces to which they belong:—

Political Division or Province.	Meteorological Division or District.	Meteorological Province.
BURMA	Tenasserim and Bay Islands.	Burma Coast and Bay Islands.
	Lower Burma	
	Arakan	
	Central Burma	Burma Inland.
	Upper Burma	
ASSAM	Assam (Surma)	Assam.
	„ (Brahmaputra)	
BENGAL	East Bengal	Bengal and Orissa.
	Deltaic Bengal	
	Central Bengal	
	North Bengal	
	Orissa	
	Chota Nagpur	Gangetic Plain and Chota Nagpur.
	South Bihar	
	North Bihar	
NORTH-WESTERN PROVINCES AND OUDH.	North-Western Provinces, East	
	North-Western Provinces, Central	
	South Oudh	
	North Oudh	
	North-Western Provinces, East Sub-montane.	
PUNJAB	North-Western Provinces, West Sub-montane.	Upper Sub-Himalayas.
	South-East Punjab	
	South Punjab	
	Central Punjab	
	Punjab Sub-montane	
	North Punjab	
	West Punjab	
BOMBAY NORTH	Sind	Indus Valley and North-West Rajputana.
RAJPUTANA AND CENTRAL INDIA.	West Rajputana	East Rajputana, Central India and Gujarat.
	Central India, East	
	Rajputana, East, Central India, West.	
BOMBAY NORTH	Kathiawar	
	Gujarat	
NORTH-WESTERN PROVINCES	North-Western Provinces, West.	

Political Division or Province.	Meteorological Division or District.	Meteorological Province.
BOMBAY	Bombay Deccan	Deccan
	Khandesh	
BERAR	Berar	
CENTRAL PROVINCES.	Central, Provinces, West	
	,, ,, Central	
	,, ,, East	
HYDERABAD OR THE NIZAM'S DOMINIONS.	Hyderabad, North	
	,, South	
BOMBAY	Konkan	West Coast.
	Malabar	
MADRAS	Madras, South	South India.
	,, ,, Central	
	,, East, Coast, South	
	,, Central	
	,, East Coast, Central	
	,, East Coast, North	
COORG AND MYSORE	Coorg	
	Mysore	
HILL DISTRICTS	Assam Hills	Hills.
	Bengal Hills	
	North-Western Provinces Hills.	
	Punjab Hills	
	Baluchistan Hills	

The double grouping is shown in Plate I at the end of this summary.

The data of Table I in the monthly reviews and in the present annual part are obtained, with a few exceptions, from the observations telegraphed daily to Simla for publication in the Daily Weather Report. In the case of thermometric observations, they are telegraphed to the nearest half degree. Hence the maxima and minima temperature data of the second class observatories derived from these telegraphic reports and given in that table occasionally differ to some slight extent from the means of the more exact data (recorded to tenths of a degree) tabulated in the observation forms sent to the Calcutta Office, and which are used in the calculation of the mean temperature data in Table II. There is also another reason why the mean maxima and minima data in Tables I and II differ to a slight extent. In Table I the daily or 24 hours' period is assumed to end at 8 A.M., and in Table II at 4 P.M., and hence the maximum temperature in Table I for any month of thirty-one days at any station gives the mean for thirty-one periods of 24 hours ending at 8 A.M. of the 31st, and in Table II for the same number of 24 hours' periods ending at 4 P.M, on the 31st, and hence virtually of a monthly period one day in advance of the former. Similarly for months of 28, 29 or 30 days. These remarks will explain some of the slight discrepancies which may be found between the maxima and minima temperature mean data in Tables I and II, and hence also in the monthly mean variation data given in these tables in the monthly reviews and annual summary.

The methods of exposure of the instruments at observatories in India, and of the reduction of the observations and the calculation of mean data, have been fully stated and explained in the Annual Reports on the Meteorology of India, and need not be repeated. The reader is referred more especially to the Annual Report of the year 1885 and to the "Instructions to observers of the Indian Meteorological Department" for full information on this subject.

Solar Radiation.

It was stated in the Annual Report of 1889 that the observations of solar thermometers are liable to large and irregular changes which make them unfit for accurate observation except perhaps at the first class observatories in India. The instruments were hence withdrawn from use except at the following stations :—

Simla. Allahabad. Lahore. Calcutta (Alipore). Jodhpur. Bombay. Leh, and Aden.

Observations of the solar thermometers were made during the year 1900 at these eight stations. The monthly averages of past years and their variations from the data of 1900 are given in Tables I and II and the mean variation data for the past ten years in Table III.

TABLE I.—*Average excess of insolation over the corresponding maximum shade temperature.*

Station.	Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla . . .	3–6	59·7	65·5	63·0	63·9	61·4	60·9	50·9	52·7	61·9	64·0	60·8	59·1	60·3
Lahore . . .	6	53·1	62·4	63·1	63·4	59·3	55·7	58·3	61·6	59·0	58·5	56·6	54·9	58·8
Jodhpur . . .	3–4	52·9	55·2	57·0	56·8	54·8	53·8	57·4	59·9	56·9	53·2	51·3	50·1	54·9
Allahabad . .	15	56·6	60·0	59·6	57·3	57·2	57·8	58·9	61·3	58·7	56·4	55·4	56·9	58·0
Calcutta (Alipore) .	13–14	53·7	56·0	56·0	56·4	58·1	54·7	56·6	56·0	56·7	56·6	54·2	53·1	55·7
Bombay . . .	14–15	56·1	57·5	56·5	56·8	56·1	50·2	45·8	51·3	55·4	56·0	55·4	55·4	54·4
Leh . . .	7–8	59·0	65·0	64·9	65·9	64·1	59·7	55·3	56·5	57·0	58·9	57·2	56·9	60·0
Aden . . .	5–9	53·6	53·9	53·0	50·1	47·7	45·9	45·7	46·6	51·7	52·7	51·6	52·9	50·5

TABLE II.—*Comparison of excess of sun over shade temperatures in 1900, with the averages of Table I.*

Station.	Number of years instruments, the observations of which are utilized for this comparison, has been given.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla . .	5½	−1·3	+2·8	+10·5	+8·4	+7·5	+2·3	−3·9	−8·6	−12·8	+7·0	+10·7	− 1·8	+1·7
Lahore . .	15	−4·8	−8·7	− 7·4	−5·8	−6·4	−9·2	−8·2	−3·7	− 7·7	−6·3	− 6·9	−12·1	−7·3
Jodhpur . .	3	0	+0·2	− 1·7	−1·0	+0·4	−2·4	−3·5	−3·4	− 0·1	+0·3	+ 0·2	− 0·2	−0·9
Allahabad . .	25	+1·1	−1·8	− 3·5	−0·1	−0·7	−4·8	−3·5	−3·6	− 1·5	−2·2	+ 1·1	+ 1·0	−1·0
Calcutta (Alipore)	8½	−6·1	−6·0	− 7·2	−6·0	−8·0	−13·2	−8·2	−4·3	−10·9	−4·5	− 5·1	− 4·3	−7·
Bombay . .	16	−7·8	−8·9	− 9·4	−9·7	−6·5	− 2·8	−3·2	−10·4	− 8·0	−4·2	− 2·2	− 4·8	−6·5
Leh . . .	9½	−1·5	+3·6	+ 4·1	−0·1	−1·8	+ 4	+5·7	+ 4·8	+ 6·6	+8·5	+ 6·9	+ 1·5	+3·6
Aden . .	10	−5·5	−6·8	− 2·2	−2·3	−2·2	− 5·4	−5·9	− 3·8	− 4·0	−2·6	− 2·6	− 8·5	−4·3

TABLE III.—*Comparison of the annual mean excess of sun over shade temperature for each year of the period 1890-99 with the average of the period 1890-99.*

Station.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	°	°	°	°	°	°	°	°	°	°
Simla	?	−0·4	−2·9	−1·3	−2·9	?	+2·6	+1·3	+3·5	?
Lahore	+2·5	+1·8	+0·9	+0·4	−0·4	−0·6	−0·7	−0·5	−1·0	−2·3
Allahabad	+0·8	+0·7	−0·6	−0·3	+0·1	−0·5	+0·4	+0·9	−0·6	−0·9
Calcutta (Alipore)	+0·8	?	?	+1·2	+1·2	+1·5	−0·2	−1·9	−0·1	−2·4
Bombay	+1·0	−0·5	0	+0·5	−0·1	+0·2	+0·5	+0·6	−1·0	−1·6
Leh	−6·7	−3·6	+4·3	+1·3	+2·2	+1·4	+0·7	+1·3	−1·5	+0·7
Aden		+5·2	+4·0	+1·3	+0·5	+1·0	−2·1	−4·4	−4·2	−0·9

Nocturnal Radiation.

It was stated in the Annual Report of 1890 that the observations of the terrestrial radiation thermometers in India were nearly as unsatisfactory as those of the solar radiation thermometers. Observations were only recorded of these instruments during the year 1900 at the following stations:—

Simla. Jodhpur. Calcutta (Alipore).
Lahore. Allahabad. Bombay.
Leh and Aden.

The following table, Table IV, gives the average data of past years for the above stations, Table V, the variations from the normal and Table VI, the mean annual variation data for the past ten years:—

TABLE IV.—*Average depression of monthly mean nocturnal radiation temperatures below mean minimum shade temperatures.*

STATION.	Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla	8—10	7·5	6·8	7·6	8·1	7·2	5·7	3·2	3·3	5·2	8·8	9·7	9·1	6·9
Lahore	13—14	9·5	9·2	8·7	8·7	8·4	5·3	3·1	3·4	5·6	8·7	9·6	8·7	7·4
Jodhpur	3—4	12·0	10·0	10·4	8·1	4·9	3·5	2·0	2·1	4·5	10·8	11·0	9·4	7·4
Allahabad	14	11·4	12·3	13·1	12·4	9·3	5·3	3·4	2·8	3·9	8·9	12·6	12·1	9
Calcutta (Alipore)	13—14	9·2	8·8	7·2	5·4	3·7	2·4	2·1	2·2	2·9	5·3	8·1	9·7	5·6
Bombay	16	10·1	9·3	8·0	6·7	4·8	2·8	2·2	2·4	3·3	6·4	9·5	11·1	6·4
Leh	11—12	11·8	10·4	11·6	11·4	10·8	11·5	11·0	11·0	12·9	15·1	16·0	13·7	2·3
Aden	8—11	3·1	2·5	2·8	2·9	2·8	2·9	2·1	2·0	3·4	3·9	4·3	3·5	3·0

TABLE V.—*Comparison of mean monthly depression of nocturnal radiation temperatures in 1900 with the averages of Table IV.*

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Simla	−2·9	−2·1	−1·6	−2·1	−0·9	−1·2	−0·6	−1·2	−2·3	−2·9	−4·1	−6·9	−2·4
Lahore	+2·3	+2·8	+2·4	+1·5	+1·2	+2·4	+2·1	+2·1	+0·4	+3·3	+3·0	+2·3	+2·2
Jodhpur	?	?	?	−2·8	+2·8	?	+0·1	−0·4	−0·9	−0·4	−1·0	−3·3	−0·5
Allahabad	−3·2	−1·0	+0·4	−0·8	−0·3	−1·0	−0·8	−0·2	−1·1	+0·4	−0·7	−2·8	−0·9
Calcutta (Alipore)	−2·7	−3·8	−2·3	−2·6	−1·2	−1·3	−0·4	−0·8	−1·1	−1·7	−3·3	−4·8	−2·2
Bombay	−0·8	−1·1	−0·4	−1·4	−0·2	−0·6	−0·1	−0·7	−0·8	+1·6	−0·3	−3·4	−0·7
Leh	−4·2	−4·9	−2·0	−2·3	−1·5	−2·5	−2·4	−1·0	−0·7	−1·3	−0·9	−1·5	−2·1
Aden	−0·7	−0·6	−0·5	+2·1	+7·5	+1·3	+1·1	+0·7	+4·4	+4·8	+4·0	−0·8	+1·9

TABLE VI.—*Comparison of the mean annual depression of nocturnal radiation temperatures with the average of the period 1890-99.*

STATION.	1890.	1892.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	°	°	°	°	°	°	°	°	°	°
Simla	+2·3	+2·2	+3·1	+1·8	+1·6	?	−3·3	−1·6	−3·3	−2·7
Lahore	−1·2	−1·7	−0·9	−0·7	+0·7	+1·0	−0·3	−0·2	+1·0	+2·0
Jodhpur	?	?	?	?	?	?	?	+0·1	0	−0·1
Allahabad	−0·9	−0·6	0	−1·3	−1·2	+0·2	+1·0	+0·1	+1·2	+1·6
Calcutta (Alipore)	−0·3	+0·1	−0·1	−0·5	−0·1	+0·1	+0·4	+0·2	+0·2	−0·2
Bombay	+1·4	+2·5	+0·8	−1·0	−1·8	−1·2	+0·8	−0·3	−1·0	−0·6
Leh	+3·1	+3·4	+2·9	+0·4	−2·3	−2·8	−2·0	−2·4	−0·1	−0·4
Aden	−0·4	−0·5	+0·1	+1·2	+1·1	−0·4	−0·8	−0·4	−0·3	−0·1

Temperature of the ground.

Observations of the temperature of the ground were recorded during the year 1900 at five stations—Calcutta, Allahabad, Dehra, Lahore and Jaipur.

The thermometers used for the purpose are verified standard mercurial thermometers with attached scales of porcelain, the scale being engraved also on the tube. At Allahabad, with the exception of the thermometer at nine feet, they are read three times daily at equal intervals of eight hours; at Lahore, with the exception of the thermometer at six feet, and Jaipur with the exception of the thermometers at 10, 20 and 45·6 feet, they are read four times daily at intervals of six hours, and at Dehra once daily, *viz.*, at 3 P.M. and at Calcutta (Alipore) from August 1900 at 1·45 P.M.

The thermometers below the surface have their bulbs protected with pointed copper shoes which rest on the ground at the bottom of a wooden tube, inserted to the specified depth and projecting six inches above the surface, the upper ends being closed by a cap of metal or wood. Those at depths of three and six feet are attached to the lower end of a stout wooden bar of about half the diameter of the tube. Those at one foot have a brass ring attached to the top of the wooden frame by which they are lifted; and in all these the lower part of the frame around the bulb has been cut away, and the lower end fitted with the copper shoe above mentioned.

TABLE VII.—*Average monthly mean temperatures of the ground and of the air.*

		Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
			°	°	°	°	°	°	°	°	°	°	°	°	°
Lahore.	Air	28—30	52·0	56·7	67·8	79·6	87·4	91·2	88·3	86·6	83·9	74·5	62·4	53·2	73·6
	Surface	5—16	50·7	57·5	74·5	90·5	101·4	104·6	101·4	99·0	95·7	78·7	61·4	51·7	80·6
	1 foot deep	15—16	57·5	60·3	70·3	81·5	89·9	94·4	94·8	93·8	92·2	82·7	71·0	61·4	79·2
	3 feet „	15—16	62·9	63·2	69·9	78·9	86·6	91·5	92·9	92·5	91·9	85·5	76·1	67·6	80·0
	6 „ „	15—16	71·4	69·2	70·6	74·9	80·3	84·9	87·5	88·4	88·9	87·0	82·1	76·3	80·1
Jaipur.	Air	27—28	58·8	63·3	74·6	85·1	90·6	90·6	83·9	81·4	81·9	76·2	67·7	60·0	76·2
	Surface	19—20	63·3	70·1	83·6	95·2	101·7	100·3	91·8	89·6	91·6	85·4	72·6	63·9	84·1
	1 foot deep	19—20	61·7	66·7	77·5	87·5	94·3	95·2	88·8	86·6	87·4	83·2	72·9	63·4	80·4
	3 feet „	19—20	66·8	68·0	74·4	81·9	87·7	91·1	88·5	86·5	86·8	85·0	78·1	70·9	80·5
	10 „ „	18—20	74·7	72·8	74·0	77·8	81·8	85·3	84·2	85·9	85·7	85·3	82·5	78·2	80·7
	20 „ „	19	80·4	79·5	78·4	78·1	78·9	80·0	81·3	82·2	82·8	83·1	83·0	82·3	80·8
	45·6 „ „	13—14	81·7	81·7	81·8	81·8	81·8	81·7	81·7	81·6	81·6	81·7	81·8	81·8	81·7
Dehra.	Air	30—31	54·8	57·4	66·9	77·1	82·6	84·0	79·4	78·0	76·9	70·6	62·4	56·1	70·5
	1·1 feet deep	19—20	57·4	58·9	67·7	78·8	86·4	88·0	84·2	82·5	81·6	76·4	67·6	60·3	74·2
	3·2 „ „	19—20	62·0	61·2	66·9	75·7	82·4	84·9	83·4	82·2	81·7	78·4	72·0	65·8	74·7
	6·4 „ „	18—20	67·6	64·7	67·2	71·7	76·9	80·4	81·5	81·6	81·3	80·3	76·0	71·5	75·1
	12·8 „ „	18—20	73·9	72·0	71·0	71·5	73·2	75·3	77·4	79·2	79·7	79·4	78·2	76·2	75·6
	25·6 „ „	17—19	76·3	75·7	75·0	74·4	74·1	74·1	74·5	75·9	76·8	77·0	77·0	76·8	75·6
Allahabad.	Air	29—31	60·6	65·3	77·8	87·7	92·4	90·6	84·7	83·2	83·2	78·6	69·0	60·7	77·8
	Surface	19—21	59·6	65·5	80·8	92·6	101·8	98·9	88·4	86·8	87·4	81·0	67·8	59·0	80·8
	1 foot deep	20—21	61·2	65·6	75·8	86·2	94·1	94·4	87·6	85·8	85·9	80·8	70·9	62·9	79·3
	3 feet „	20—21	66·6	68·1	74·1	82·3	89·2	91·9	88·0	86·1	85·9	83·3	76·7	70·0	80·2
Calcutta (Alipore.)	Air	16	76·9	81·6	90·4	95·4	93·5	91·3	88·0	87·1	87·4	86·6	81·4	76·1	86·3
	Surface	21	76·1	85·1	102·4	112·2	107·5	97·8	94·1	93·3	94·2	93·1	85·7	76·8	93·2
	1 foot deep	20—21	67·3	71·1	78·8	86·0	88·2	87·1	85·9	85·5	85·4	83·2	76·3	68·8	80·3
	3 feet „	20—21	71·9	73·7	78·8	84·7	87·5	87·4	86·3	86·2	86·1	85·1	80·8	75·3	82·0
	6 „ „	15—17	77·1	76·3	77·7	80·9	83·9	85·3	85·3	85·2	85·3	85·1	83·6	80·4	82·2

The mean results for Calcutta in Table VII (above) show that the surface of the ground is, on the average, of the whole year 6°·9 hotter than the air at about 2 P.M. They also indicate that the temperature increases 1°·9 in passing from one foot to a depth of six feet.

At Allahabad the ground surface is on the average 3° hotter than the air. The average temperature decreases 1°·5 down to a depth of one foot, and then increases 0°·9 to a depth of three feet.

At Jaipur (where the soil on which the instrument is placed is almost pure sand) the surface is as much as 7°·9 hotter than the air on the average of the whole year. In May the difference reaches the large amount of 11°·1. The mean temperature decreases to a depth of one foot and then slowly increases to a depth of 20 feet.

At Lahore the surface soil, which is similar in character to that of Jaipur, is on the average 7°·0 hotter than the air. The temperature decreases through a depth of one foot, and thence increases slowly to a depth of six feet.

TABLE VIII.—*Comparison of the mean monthly temperatures of the ground in 1900, with the averages of Table VII.*

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°		°	°	°	°
LAHORE.	Air	+0·6	+2·2	+5·5	−1·3	+1·9	+4·4	+3·5	+1·1	−1·3	+0·1	+4·6	+0·8	+1·8
	Surface	−2·4	−1·0	+2·2	−5·1	−2·5	+0·5	+2·0	−0·6	−7·0	−1·0	+1·5	−1·4	−1·2
	1 foot deep	+0·9	+1·1	+2·3	−1·8	−1·2	+0·3	+1·5	0	−2·3	−2·0	+1·3	−0·9	−0·1
	3 feet „	+1·7	+1·5	+2·0	−0·7	−1·0	−0·1	+1·0	0	−1·0	−1·9	+1·0	−0·2	+0·2
	6 „ „	+1·0	+0·8	+1·3	+0·6	−0·4	−0·3	+0·4	+0·4	+0·2	−1·1	−0·1	−0·1	+0·2
JAIPUR.	Air	−0·7	+3·7	+4·7	+0·3	−0·6	+5·0	+4·8	+1·4	−1·5	+0·2	+3·8	+0·9	+1·8
	Surface	−0·3	+1·2	+4·4	−1·0	−3·2	+3·6	+4·5	+0·2	−3·2	−2·3	+2·9	+1·2	+0·7
	1 foot deep	+0·7	+3·4	+4·6	+1·9	−1·2	+3·0	+5·0	+1·2	−1·6	0	+3·2	+1·9	+1·8
	3 feet „	+3·0	+3·0	+3·0	+1·9	+0·5	+2·4	+4·5	+2·3	−0·8	−0·1	+2·0	+2·3	+2·0
	10 „ „	−3·2	−1·0	+3·4	+5·8	+6·2	+7·8	+9·2	+3·4	+0·8	+0·3	−1·6	−4·3	+2·2
	20 „ „	+2·2	+1·2	+0·9	+1·4	+1·7	+2·3	+2·8	+2·2	+2·5	+2·9	+1·3	+0·5	+1·8
	45·6 „ „	+0·5	+0·7	+0·7	+0·8	+0·8	+0·9	+0·7	+0·8	+0·9	+0·8	+0·7	+0·8	+0·8
DEHRA.	Air	−0·9	−0·8	+2·6	−3·8	−1·0	+0·8	−0·2	−0·7	−2·6	−2·2	+0·7	−1·1	−0·8
	1·1 feet deep	+0·4	+0·8	+2·1	−2·4	+0·8	+2·3	+0·5	+0·8	−1·7	−1·2	+2·6	−0·1	+0·4
	3·2 „ „	+1·0	+0·8	+1·3	−1·0	+0·1	+1·4	+0·9	+0·9	−0·8	−0·9	+1·2	+0·6	+0·5
	6·4 „ „	+0·9	+1·1	+0·5	+0·4	−0·5	+0·1	+0·5	+0·3	−0·2	−1·0	+0·5	+1·4	+0·3
	12·8 „ „	+1·2	+1·0	+0·7	+0·4	+0·4	+0·6	+1·0	+0·4	+0·4	+0·2	+0·1	+0·4	+0·6
	25·6 „ „	+0·4	+0·2	−0·5	−0·6	−0·3	+0·2	+0·7	+0·6	+1·2	+1·4	+1·1	+0·8	+0·4
ALLAHABAD.	Air	+0·2	+0·9	+1·0	−0·3	−0·2	+3·3	+2·5	+0·5	−1·8	−2·2	+0·3	+2·0	+0·5
	Surface	+1·6	+1·7	+2·3	1·6	+1·8	+6·6	+4·4	+2·5	−1·9	−2·0	+2·0	+3·8	+2·0
	1 foot deep	+1·2	+0·7	+2·0	+1·5	+0·3	+3·7	+3·4	+0·6	−2·0	−1·9	+1·3	+3·0	+1·2
	3 feet „	+1·6	+0·6	+1·0	+0·9	−0·1	+1·2	+2·7	+0·9	−0·5	−1·8	+0·4	+2·2	+0·8
CALCUTTA (ALIPORE.)	Air	+3·8	+4·1	+2·7	+0·6	−0·1	+1·1	+1·2	+1·2	−0·3	+1·0	+0·9	+3·0	+1·6
	Surface	+7·9	+3·6	+0·1	−7·3	−6·6	−2·5	−0·6	−1·8	−4·6	+1·2	+5·2	+6·9	+0·1
	1 foot deep	+2·7	+2·8	+1·3	−1·7	−2·8	−1·7	−0·3	−0·5	−2·4	−0·8	+0·9	+4·1	+0·1
	3 feet „	+1·3	+1·4	+0·1	−1·8	−2·8	−2·4	−1·2	−1·2	−3·1	−2·2	−0·5	+1·5	−0·9
	6 „ „	−0·5	−0·6	−0·7	−1·3	−2·1	−2·3	−1·7	−1·6	−2·2	−2·6	−1·9	−0·4	−1·5

Temperature.

The methods of exposing the thermometers at observatories in India and of deducing the daily and monthly means from the observed readings of the instruments are described in pages 18-19 of the Annual Report for 1890.

The variations of the mean temperature of each month from the normal given in Table II of the monthly reviews are deduced by a comparison of the actual monthly means with the normal monthly means obtained by the same methods given in Table XII of average monthly temperatures of 87 stations in India and Ceylon, etc., in pages 19 to 22 of the Annual Report for the year 1890. Average data for 134 stations will also be found in pages 39 to 42 of the Annual Report for the year 1887.

Average or normal monthly temperatures of 82 second class stations were recently re-calculated and the whole of the data up to December 1896 utilized for the determination of these values. These normal means were given in Table I of the Annual Summary for 1896.

The variations obtained by a comparison of these normal means with the actual monthly means in Table II of the monthly weather reviews for the year are given in Table I.

The mean variations given in Table II of the Geographical Summary are derived from the variation data of Table II of the monthly weather reviews of the year 1900.

In Table I published in each monthly review, as in the Daily Weather Report, the mean temperature of the day is calculated by the formula, daily mean $= \frac{\text{Maximum} + \text{Minimum}}{2}$. It differs from the true daily mean by amounts varying slightly with the season. The variations of the daily or monthly actual means obtained by this method from normal daily or monthly means similarly calculated, usually differ very little from those obtained by the more laborious computation of true daily means and the comparison of these with normal true daily means. In Table I of the monthly weather reviews of the year 1900 the variations of the monthly mean maxima and minima temperatures from the normal, as well as the variations of the monthly mean temperatures *i.e.*, $\frac{\text{Maximum} + \text{Minimum}}{2}$ are given.

Normal monthly mean maxima and minima temperatures of 94 stations calculated from the observations of the eleven years' period, 1878—1888, were given in the Annual Summary for 1891. The additional data for the years 1889—1893 have been recently utilized to furnish what are probably slightly more accurate means than those given in the 1891 Annual Summary. The re-calculated means were given in the 1894 Annual Summary, Tables I and II, and need not be repeated here. Variation data of monthly mean air temperatures in 1900 are given in Table IX.

Tables X and XI (*a*), XI (*b*) and XI (*c*) give summaries of the temperature variation data for each month of the year 1900 and for the year. In the first table (Table II) the same division has been adopted as that employed in the Annual Reports from 1881 to 1890. This enables an exact comparison to be made of the temperature data of the year 1900 with those of previous years given in the Annual Reports. In the second set of tables [Table XI (*a*), XI (*b*) and XI (*c*)] the variation data are given for the eleven meteorological provinces into which the empire is divided for the purpose chiefly of comparing meteorological and health statistics and in the last table (Table IV) the data are given for 55 of the 57 smaller divisions or areas into which India is sub-divided with a view to the comparison of meteorological and crops statistics—

TABLE IX.—*Comparison of monthly mean air temperature in 1900 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands.	Port Blair	+1·5	+2·2	+1·6	+1·6	+1·3	+1·3	+1·2	+1·6	+0·7	+1·1	+1·8	+1·7	+1·5
	Rangoon	+2·0	+2·5	+1·7	+2·3	−0·4	0	+0·5	+0·5	+1·0	+0·6	−0·9	+0·7	+0·9
	Diamond Island.	+2·1	+2·1	+1·1	+1·6	+1·3	+1·5	+1·4	+1·7	+1·9	+1·9	+1·9	+2·6	+1·8
	Cocos Island	+3·4	+2·6	+1·5	+3·2	+3·2	−0·3	−0·1	+0·8	+1·1	+1·4	+1·3	+2·4	+1·7
	Akyab	?	?	?	?	?	?	−1·7	−1·4	−1·5	−1·3	−1·4	−0·1	?
Bengal and Orissa.	Chittagong	+3·4	+3·1	+1·6	+1·8	+0·5	+0·2	+0·3	+1·7	+0·5	+0·6	+0·5	+2·2	+1·4
	Calcutta (Alipore).	+3·8	+4·1	+2·7	+0·6	−0·1	+1·1	+1·2	+1·2	−0·3	+1·0	+0·9	+3·0	+1·6
	Saugor Island	+2·6	+4·2	+0·9	+0·6	−1·0	+0·4	+1·0	+0·8	−0·6	+0·1	+0·2	+2·5	+1·0
	False Point	+3·0	+4·0	+1·6	+0·6	−0·1	+1·0	+0·7	+0·5	−0·2	−0·4	−0·1	+2·9	+1·1
Gangetic Plain and Chota Nagpur.	Hazaribagh	+1·1	+1·4	+3·4	+1·0	−0·6	+1·1	+1·6	+0·3	−1·3	−0·7	?	+1·7	+0·8
	Darbhanga	−0·2	+1·4	+1·4	+0·1	+0·1	−0·2	−1·0	+1·5	−1·7	−0·9	−0·3	0	0
	Allahabad	+0·2	+0·3	+1·0	−0·3	−0·2	+3·3	+2·5	+0·5	−1·8	−2·2	+0·3	+2·0	+0.5

TABLE IX.—*Comparison of monthly mean air temperatures in 1900 with the averages of past years*—contd.

Meteorological Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Upper Sub-Himalayas.	Dehra Dun	−0·9	−0·8	+2·6	−3·8	−1·0	+0·8	−0·2	−0·7	−2·6	−2·2	+0·7	−1·1	−0·8
	Roorkee	+0·2	−0·1	+3·6	−2·2	+0·4	+0·6	0	−0·3	−3·0	−2·1	+0·9	+0·2	−0·2
	Meerut	+0·9	+1·9	+3·8	−1·6	+1·6	+1·7	+0·8	+0·5	−2·7	−2·0	+1·9	+0·8	+0·6
	Lahore	+0·6	+2·2	+5·5	−1·3	+1·9	+4·4	+3·5	+1·1	−1·3	+0·1	+4·6	+0·8	+1·8
	Ludhiana	+1·1	+2·3	+5·3	−1·9	+2·4	+4·3	+1·7	−1·4	−2·7	−1·0	+3·2	+1·1	+1·2
Indus Valley and North-West Rajputana.	Peshawar	−1·5	+1·3	+3·6	−4·0	−1·4	+1·0	+2·4	+1·5	+1·4	−0·5	+3·1	+0·2	+0·6
	Jacobabad	−2·5	+3·0	+5·7	+0·4	+1·9	+4·2	+3·6	+2·3	+3·4	+1·2	+5·8	−0·1	+2·4
	Kurrachee	−2·4	+1·2	+2·3	+3·0	+0·8	+2·2	+2·9	+3·3	+2·9	+1·6	+2·4	+0·2	+1·7
East Rajputana, Central India and Gujarat.	Jaipur	−0·7	+3·7	+4·7	+0·3	−0·6	+5·0	+4·8	+1·4	−1·5	+0·2	+3·8	+0·9	+1·8
	Deesa	−1·5	+2·2	+2·2	+2·1	−0·4	+3·6	+5·8	+0·4	+0·1	+0·3	+3·4	+1·1	+1·6
Deccan	Belgaum	+1·4	+1·8	+0·8	+0·5	+1·3	+1·7	+1·3	+0·7	+0·9	+2·3	+2·6	+3·2	+1·5
	Sholapur	+4·1	+3·7	+1·7	+1·4	+2·2	+2·4	+1·6	+1·3	+2·0	+2·1	+2·0	+4·6	+2·4
	Poona	+2·4	+2·2	+1·0	+0·9	+1·7	+3·4	+1·9	+0·2	+0·1	+0·9	+2·4	+4·4	+1·8
	Akola	+5·2	+3·5	+2·8	+2·3	+1·3	+4·2	+2·4	+0·4	0	−1·7	+1·1	+6·6	+2·3
	Buldana	+3·8	+3·4	+2·4	+1·6	+1·7	+4·7	+2·4	+0·3	0	−0·5	+2·1	+4·4	+2·2
	Khandwa	+2·9	+2·9	+2·5	+2·4	+1·8	+4·7	+3·1	+0·5	−0·3	−1·3	+3·3	+7·4	+2·5
	Nagpur	+6·0	+3·5	+2·7	+2·3	+1·9	+4·8	+1·2	+0·3	−0·3	−0·4	+1·2	+5·5	+2·4
	Hyderabad (Deccan)	+5·2	+4·5	+4·2	+1·7	+2·0	+2·4	−0·1	+1·9	0	+0·6	+1·4	+3·6	+2·3
West Coast	Bombay	−0·3	−0·7	+0·1	−0·4	+0·2	+2·3	+1·8	+0·4	+1·0	+0·2	+0·9	+1·6	+0·6
	Karwar	−1·4	0	−1·4	−0·6	+0·3	+0·1	+0·8	+1·2	+1·0	+1·8	+1·6	+2·5	+0·5
South India.	Salem	+2·5	+3·6	+3·6	+0·6	+3·1	+2·8	+0·9	+2·2	?	+1·1	+1·2	+2·6	+2·2
	Chitaldroog	+4·0	+3·5	+2·7	+2·3	+3·5	+2·0	+1·7	+1·2	+1·3	+1·6	+2·9	+3·9	+2·6
	Bangalore	+3·7	+3·5	+2·7	+1·8	+4·1	+1·9	+1·4	+1·8	+1·0	+1·1	+1·1	+2·3	+2·2
	Hassan	+2·2	+2·6	+1·2	+2·0	+3·3	+1·5	+1·5	+1·1	+0·9	+1·0	+0·1	+2·1	+1·6
	Mysore	+2·7	+3·1	+1·5	+1·9	+4·0	+1·6	+0·8	+0·6	−0·6	0	+0·6	+2·3	+1·5
	Madras	+0·4	+0·8	+0·7	−0·9	0	+3·0	+0·1	+2·9	−0·1	+0·3	−0·2	+1·2	+0·6
	Bellary	+4·0	+4·1	+2·1	+0·7	+1·7	+1·7	+0·7	+0·5	+0·6	+0·9	+1·9	+3·3	+1·9
Hill Station, Baluchistan.	Quetta	−6·6	+0·9	+3·8	−1·3	−1·2	−1·3	+1·8	+1·3	+3·5	+1·4	+3·8	−1·0	+0·4
Hill Stations, Northern India.	Leh	−2·8	−1·4	+2·6	−3·4	+1·2	−1·3	−0·7	+1·3	+4·7	−1·3	+4·3	−0·3	+0·2
	Srinagar	−1·5	+4·1	+4·4	−5·5	−2·9	−3·6	+0·8	+1·0	+4·0	−0·1	+4·3	+0·9	+0·5
	Kailang	+0·2	+0·4	+2·5	−4·3	−0·1	−1·0	−0·9	−0·4	+3·7	−1·1	+5·4	−0·5	+0·3
	Simla (Ridge)	−3·3	−1·2	+3·1	−6·0	−2·0	+1·5	+0·1	−0·2	−1·6	−1·5	+1·2	−4·1	−1·2
	Chakrata	−3·5	−1·3	+2·5	−5·1	−1·9	−0·8	−0·5	+0·1	−1·3	−1·0	+2·0	−2·7	−1·1

TABLE IX.—*Comparison of monthly mean air temperatures in 1900 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Hill Stations, Northern India—*concluded.*	Ranikhet	−2·2	−0·4	+3·4	−4·1	−0·6	+0·6	+0·8	+0·8	−1·1	−0·9	+1·2	−2·4	−0·4
	Katmandu	−1·5	+0·6	+1·9	+0·7	−0·8	−0·2	−0·8	+0·3	−0·6	−0·9	+0·2	−2·7	−0·3
	Darjeeling	+0·5	+1·0	+1·5	+1·5	+0·1	?	+0·4	+1·5	+0·4	+0·8	+1·5	?	?
Hill Stations, Central India.	Mount Abu	−1·6	+1·1	+2·3	−0·5	−1·3	+4·2	+4·1	+1·3	−0·8	0	+2·8	+0·2	+1·0
	Pachmarhi	+3·5	+2·9	+3·0	+1·4	+1·4	+6·0	+2·3	0	−1·1	−1·3	+1·5	+5·2	+2·1
	Chikalda	+3·7	+3·4	+3·0	+1·4	+1·6	+5·0	+2·6	+0·5	−0·7	−0·1	+2·1	+4·2	+2·2
Hill Station, South India.	Wellington	+2·3	+2·4	+1·2	+1·1	+1·4	+0·8	+0·7	+0·8	+0·9	+0·6	+0·6	+0·9	+1·1
Extra India.	Aden	−0·4	+1·5	+1·3	+0·8	+0·3	+1·6	+0·9	+0·6	−0·5	−0·4	+1·5	+1·8	+0·8
	Perim	−0·5	+0·2	+0·2	−0·2	−0·5	+0·2	−0·5	−0·4	+0·5	−0·4	+0·9	+1·5	+0·1
	Zanzibar	+0·5	+0·8	+1·0	+1·0	+2·0	+0·7	+0·3	+0·8	+0·6	0	+1·4	−1·3	+0·7
	Port Victoria (Seychelles).	−1·3	−0·5	+1·0	+1·0	−0·4	+0·9	−0·2	−0·1	−0·5	−0·3	−0·6	−0·4	−0·1
	Mauritius (Pamplemouses).	+1·0	+1·1	+0·8	+0·3	+1·0	+0·2	−1·1	−1·0	−0·9	−0·6	+0·1	+0·7	+0·1

TABLE X.—*Geographical summary of the temperature data of Table II in the Monthly Weather Reviews of 1900.*

Meteorological Area.	Number of stations.	January.	February.	March.	April	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
North-West Himalaya	6	−2·2	0	+3·1	−4·7	−1·1	−0·8	−0·1	+0·4	+1·4	−1·0	+3·1	−1·5	−0·3
Sikkim Himalaya and Nepal.	1—2	−0·5	+0·8	+1·7	+1·1	−0·4	−0·2	−0·2	+0·9	−0·1	−0·1	+0·9	−2·7	+0·1
Punjab Plains	3	+0·1	+1·9	+4·8	−2·4	+1·0	+3·2	+2·5	+0·4	−0·9	−0·5	+3·6	+0·7	+1·2
Gangetic Plain	5	0	+0·7	+2·5	−1·6	+0·2	+1·2	+0·4	+0·3	−2·4	−1·9	+0·7	+0·4	0
Western Rajputana	4	−2·0	+1·9	[illegible]	+1·3	+0·3	+3·6	+4·1	+1·8	+1·4	+0·8	+3·6	+0·4	+1·7
Eastern Rajputana and Central India.	1	−0·7	+3·7	+4·7	+0·3	−0·6	+5·0	+4·8	+1·4	−1·5	+0·2	+3·8	+0·9	+1·8
Nerbudda Valley	1	+2·9	+2·9	+2·5	+2·4	+1·8	+4·7	+3·1	+0·5	−0·3	−1·3	+3·3	+7·4	+2·5
Chota Nagpur	1	+1·1	+1·4	+3·4	+1·0	−0·6	+1·1	+1·6	+0·3	−1·3	−0·7	?	+1·7	+0·8
Lower Bengal	2	+3·2	+4·1	+1·8	+0·6	−0·6	+0·8	+1·1	+1·0	−0·5	+0·6	+0·6	+2·8	+1·3
Orissa	1	+3·0	+4·0	+1·6	+0·6	−0·1	+1·0	+0·7	+0·5	−0·2	−0·4	−0·1	+2·9	+1·1
Central Provinces South and Berar.	5	+4·4	+3·3	+2·8	+1·8	+1·6	+4·9	+2·2	+0·3	−0·4	−0·8	+1·6	+5·2	+2·2
Konkan	2	−0·9	−0·4	−0·7	−0·5	+0·3	+1·2	+1·3	+0·8	+1·0	+1·0	+1·3	+2·1	+0·5
Deccan, Hyderabad and Mysore.	9	+3·3	+3·2	+2·0	+1·5	+2·6	+2·1	+1·2	+1·0	+0·7	+1·2	+1·7	+3·3	+2·0
East Coast and Carnatic	1—2	+1·5	+2·2	+2·2	−0·2	+1·6	+2·4	+0·5	+2·6	−0·1	+0·7	+0·5	+1·9	+1·3
Arakan and Pegu	3—4	+2·5	+2·6	+1·5	+1·9	+0·5	+0·6	+0·1	+0·6	+0·5	+0·5	0	+1·4	+1·1
Bay Islands	2	+2·5	+2·4	+1·6	+2·4	+2·3	+0·5	+0·6	+1·2	+0·9	+1·3	+1·6	+2·1	+1·6
Extra-Tropical India	24—26	−0·3	+1·5	+2·9	−1·2	−0·1	+1·5	+1·5	+0·7	−0·2	−0·6	+2·2	+0·5	+0·7
Tropical India	24—25	+2·8	+2·7	+1·8	+1·4	+1·8	+2·3	+1·1	+0·9	+0·4	+0·6	+1·2	+3·0	+1·7
Whole India	49—51	+1·2	+2·1	+2·4	0	+0·8	+1·9	+1·3	+0·8	+0·1	0	+1·7	+1·7	+1·2

TABLE XI (*a*).—*Variations of the mean monthly maximum temperature from the normal in 1900 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands	+1·3	+1·2	+0·1	+2·0	+0·2	+0·5	+0·9	+0·3	+0·9	+0·8	+0·1	+0·9	+0·8
Burma Inland	+0·3	+1·6	−0·1	+2·6	+0·5	+0·5	+0·6	−0·3	−0·9	−0·5	+1·2	+1·9	+0·6
Assam	+0·8	+0·8	−1·7	−0·8	+0·7	+0·7	−2·2	+2·3	+1·0	+1·9	+1·7	+1·7	+0·6
Bengal and Orissa	+1·5	+2·2	+0·9	+0·6	+0·8	−0·1	+0·2	+1·5	−0·8	+0·5	+1·7	+2·3	+1·0
Gangetic Plain and Chota Nagpur.	−0·8	+1·2	+3·0	−1·3	−1·3	+0·7	+1·6	+1·1	−2·7	−1·5	+1·8	+0·9	+0·2
Upper Sub-Himalayas	−1·1	+1·2	+4·1	−5·3	−0·3	+2·7	+1·3	−0·2	−4·6	−2·1	+1·7	−2·8	−0·5
Indus Valley and North-West Rajputana.	−2·7	+2·1	+4·6	−3·4	−1·0	+3·4	+3·7	+2·5	−0·3	−0·7	+3·1	−3·2	+0·7
East Rajputana, Central India and Gujarat.	−1·8	+2·2	+3·0	−1·3	−0·7	+4·6	+5·9	−0·5	−2·0	−0·1	+3·5	−0·1	+1·1
Deccan	+3·7	+3·7	+2·7	+0·9	+1·7	+5·6	+3·1	−0·2	−0·6	+0·9	+3·1	+4·5	+2·4
West Coast	−1·5	−0·1	−0·1	−0·7	+0·3	+1·2	+0·9	+1·1	+0·4	+1·9	+2·4	+1·3	+0·6
South India	+2·9	+2·7	+2·3	+0·1	+0·9	+1·9	+0·8	+1·5	−0·1	+0·8	+1·3	+2·3	+1·5

TABLE XI (*b*).—*Variations of the mean monthly minimum temperature from the normal in 1900 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands	+2·9	+3·5	+2·2	+3·5	0	+1·3	+0·8	+1·1	+0·3	+1·9	−1·7	+1·7	+1·5
Burma Inland	+3·1	+2·3	+1·2	+3·1	−0·7	+0·6	+0·4	+0·8	−0·6	+0·6	−0·2	+2·6	+1·1
Assam	+1·8	+2·1	−0·8	0	−0·5	+0·3	−0·3	+1·2	−0·1	−0·8	−0·1	+1·0	+0·3
Bengal and Orissa	+3·1	+4·6	+1·4	+0·6	−0·8	+0·4	+0·2	+1·2	−0·2	−0·4	−0·5	+1·8	+1·0
Gangetic Plain and Chota Nagpur.	+3·3	+2·8	+1·7	+0·6	−0·1	+1·1	+0·9	+0·9	−0·4	−1·3	+1·3	+3·6	+1·2
Upper Sub-Himalayas	+0·6	+1·9	+3·0	−1·3	+2·9	+3·0	+1·4	+1·5	+0·9	−0·6	+4·6	+4·1	+1·8
Indus Valley and North-West Rajputana.	−2·6	+1·3	+3·2	−0·8	+1·2	+2·7	+2·9	+2·3	+2·9	0	+5·2	+2·1	+1·7
East Rajputana, Central India and Gujarat.	−0·4	+2·5	+3·3	+2·4	+1·3	+3·1	+3·0	+1·3	+1·2	−2·0	+4·5	+4·2	+2·0
Deccan	+4·1	+3·2	+2·0	+2·3	+1·4	+2·4	+1·5	+0·8	+0·8	−1·8	+1·1	+0·9	+2·1
West Coast	+0·3	+1·2	+0·2	+0·1	+1·2	+1·0	+1·3	+1·3	+1·0	+0·8	+1·2	+2·9	+1·0
South India	+2·3	+2·4	+1·8	+0·9	+1·0	+1·1	+0·8	+1·3	+0·6	+0·6	+0·4	+2·0	+1·3

TABLE XI (*c*).—*Variations of the mean monthly temperature from the normal in 1900 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands	+2·1	+2·4	+1·2	+2·8	+0·1	+0·9	+0·9	+0·7	+0·6	+1·4	−0·8	+1·4	+1·1
Burma Inland	+1·7	+2·0	+0·6	+2·9	−0·1	+0·5	+0·5	+0·3	−0·7	+0·1	+0·5	+2·3	+0·9
Assam	+1·3	+1·5	−1·3	−0·4	+0·1	+0·5	−1·3	+1·8	+0·4	+0·5	+0·9	+1·4	+0·5
Bengal and Orissa	+2·3	+3·4	+1·2	+0·6	+0·1	+0·1	+0·2	+1·3	−0·5	+0·1	+0·6	+2·1	+1·0

TABLE XI (*c*).—*Variations of the mean monthly temperature from the normal in 1900 in the eleven meteorological provinces of India*—concld.

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Gangetic Plain and Chota Nagpur.	+1·3	+2·0	+2·3	−0·4	−0·6	+0·9	+1·2	+1·1	−1·6	−1·4	+1·6	+2·3	+0·7
Upper Sub-Himalayas . .	−0·2	+1·6	+3·6	−3·3	+1·3	+2·9	+1·4	+0·7	−1·9	−1·3	+3·2	+0·7	+0·7
Indus Valley and North-West Rajputana.	−2·7	+1·7	+3·9	−2·1	+0·1	+3·1	+3·3	+2·4	+1·3	−0·4	+4·2	−0·6	+1·2
East Rajputana, Central India and Gujarat.	−1·1	+2·3	+3·2	+0·6	+0·3	+3·8	+4·5	+0·4	−0·4	−1·1	+3·9	+2·1	+1·5
Deccan	+3·9	+3·5	+2·4	+1·6	+1·6	+4·0	+2·3	+0·3	+0·1	−0·4	+2·1	+5·7	+2·3
West Coast	−0·6	+0·5	+0·1	−0·3	+0·8	+1·1	+1·1	+1·2	+0·7	+1·4	+1·8	+2·1	+0·8
South India	+2·6	+2·6	+2·1	+0·6	+0·9	+1·6	+0·8	+1·4	+0·2	+0·7	+0·8	+2·2	+1·4

TABLE XII.—*Variations of the mean monthly and annual temperatures from the normal in 1900 in 55 of the 57 meteorological districts or divisions of India.*

PROVINCE.	DIVISION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
BURMA . .	1. Tenasserim . .	+2·4	+2·4	+1·1	+2·4	+0·1	+1·4	+1·3	+1·0	+1·4	+1·5	+0·2	+1·2	+1·4
	2. Lower Burma Deltaic .	+2·3	+2·1	+1·2	+2·1	+0·2	+0·4	+0·6	+0·7	+1·1	+1·3	−0·7	+1·4	+1·1
	3. Central do. .	+0·5	+2·8	+1·7	+4·7	+0·9	+0·6	+0·4	+0·3	−0·3	+0·1	−1·3	+1·1	+1·0
	4. Upper do. .	+1·7	+1·8	+0·4	+2·7	−0·4	+0·6	+0·5	+0·2	−0·9	+0·1	+0·7	+2·5	+0·6
	5. Arakan . . .	?	?	?	?	?	?	?	?	−1·6	?	−1·6	−0·4?	?
	6. Eastern Bengal . .	+2·5	+3·1	+1·3	+0·9	+0·5	+0·4	−0·1	+1·8	0	+0·4	+0·5	+1·7	+1·1
	7. Assam, Surma . .	+2·4	+2·6	?	+0·2	+0·8	+1·3	−0·2	+3·0	+1·1	+1·0	+1·2?	+2·0	+1·4
	9. Do. Brahmaputra .	+0·8	+0·9	−1·3	−0·8	−0·2	+0·2	−1·8	+1·2	+0·1	+0·3	+0·8	+1·1	+0·1
	10. Deltaic Bengal . .	+2·8	+4·3	+1·4	+0·6	−0·2	+0·1	+0·6	+1·0	−0·5	+0·6	+0·8	+2·3	+1·2
	11. Central do. . .	+2·2	+2·3	+1·7	0	−0·4	−0·6	+0·3	+1·5	−0·8	+0·2	+1·0	+2·2	+0·8
BENGAL AND ASSAM.	12. North do. . .	+0·9	+2·7	+0·5	+1·7	+0·9	+0·4	−0·8	+3·6	−0·6	−0·4	+0·2	+0·8	+0·8
	13. Bengal hills . .	+0·6	+2·5	+0·6	+1·8	+0·3	?	−0·2	+1·3	+0·1	+0·9	+1·5	+0·1	+0·9
	14. Orissa . . .	+3·3	+4·2	+1·4	−0·3	−0·5	+0·8	+1·2	+0·4	−0·4	−0·1	+0·4	+3·6	+1·2
	15. Chota Nagpur . .	+2·7	+3·5	+3·4	+0·5	−0·4	+0·3	+1·8	+0·4	−1·0	−1·1	+1·1	+3·6	+1·2
	16. South Bihar . .	+1·1	+1·2	+1·5	+0·6	−0·6	−0·5	+1·0	+0·7	−2·2	−2·0	+1·1	+2·5	+0·4
	17. North do. . .	+0·4	+1·5	+0·7	+1·0	+0·1	−0·4	−0·9	+1·8	−1·6	−1·0	+0·8	+0·8	+0·3
	18. North-Western Provinces, East.	+1·3	+1·4	+1·2	−0·7	−0·2	+1·2	+2·3	+1·0	−1·6	−1·9	+2·1	+3·0	+0·8
	19. South Oudh . .	+0·8	+2·0	+2·9	−0·6	?	?	+1·1	+1·0	−1·5	−1·1	+3·3	+2·5	+1·0
	20. North do. . .	?	+1·9	?	−1·6	−1·3	+2·3	+0·3	+2·5	−1·2	−0·8	+1·0	+0·8	+0·4
NORTH-WESTERN PROVINCES AND OUDH.	21. North-Western Provinces, Central.	+0·5	+3·3	+4·1	−1·3	+0·1	+3·8	+3·0	+1·1	−2·1	−1·6	+5·0	+1·2	+1·4
	22. Do. do. West Submontane.	+0·7	+2·2	+3·6	−2·3	−0·2	+2·1	+2·8	+1·7	−1·9	−0·9	+3·7	+1·5	+1·1
	23. Do. do. East Submontane.	−0·1	+1·3	+0·9	−0·8	−1·7	−0·3	−0·2	+1·2	−1·8	−1·8	+1·6	+1·7	0
	24. Do. do. West Submontane.	+0·8	+1·2	+2·7	−3·0	+0·9	+1·4	+0·6	+0·6	−1·8	−1·6	+2·3	+0·9	+0·4
	25. Do. do. Hills	−2·3	−0·2	+2·6	−5·0	−0·5	+0·6	+0·8	+0·7	−0·9	−0·6	+2·5	−2·2	−0·4

TABLE XII.—*Variations of the mean monthly and annual temperatures from the normal in 1900, in 55 of the 57 meteorological districts or divisions in India*—concld.

Province.	Division.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Punjab	26. South-East Punjab	−1·3	+1·6	+3·9	−3·8	+1·2	?	+2·3	+0·5	−3·7	−2·1	+2·6	−0·7	0
	27. South do.	−1·8	?	+3·4	−3·7	+1·3	+3·3	?	+1·1	−3·2	−1·4	+4·9	−0·6	+0·3
	28. Central do.	−0·2	+2·6	+4·7	−2·5	+2·5	+4·1	?	+1·5	−1·2	−0·5	+5·9	+0·5	+1·6
	29. Punjab Submontane	−0·6	+1·7	+4·0	−3·3	+1·7	+3·3	+1·6	−0·4	−2·2	−1·2	+2·7	+0·5	+0·7
	30. Do. Hills	−3·0	−0·4	+3·2	−5·9	−1·4	−0·6	+0·8	+0·3	+0·6	−1·8	+2·5	−2·0	−0·6
	31. North Punjab	−1·2	+1·0	+3·6	−5·2	−0·4	+2·1	+2·7	+1·6	+1·3	−0·5	+3·9	+1·5	+0·9
	32. West do.	−2·4	+1·8	+3·9	−4·3	−0·4	+3·0	+3·5	+2·0	+0·7	−0·8	+4·3	−1·2	+0·8
Bombay and Malabar Coast Districts (Madras).	33. Malabar	+0·7	+1·7	+1·2	+0·7	+1·9	+1·8	+0·8	+1·8	+0·3	+1·8	+2·1	+2·0	+1·4
	34. Madras, South Central	+2·1	+3·0	+2·4	+0·8	+2·5	+2·4	+0·8	+1·5	−0·6	+0·8	+0·8	+1·8	+1·5
	35. Coorg	+4·0	+2·7	+1·5	+0·4	+2·1	+0·9	+1·0	+0·2	0	+1·1	+2·2	+3·0	+1·6
	36. Mysore	+3·3	+3·0	+2·2	+1·4	+3·0	+1·8	+1·2	+0·8	+0·3	+0·8	+1·5	+2·9	+1·9
	37. Konkan	−1·6	−0·6	−1·0	−0·9	+0·1	+0·7	+1·3	+0·9	+1·0	+1·1	+1·7	+2·2	+0·4
	38. Bombay Deccan	+3·0	+2·7	+1·1	+1·0	+1·9	+2·7	+1·7	+0·5	+1·8	+1·7	+2·5	+4·9	+2·1
	40. Khandesh	+2·3	+1·8	+1·8	+1·7	+1·4	+3·7	+2·6	+0·3	+1·8	+0·1	+3·8	+6·6	+2·3
Central Provinces and Berar.)	41. Berar	+5·6	+3·8	+2·9	+2·5	+1·5	+4·4	+2·9	−0·3	−0·4	−0·6	+1·6	+8·0	+2·7
	42. Central, Provinces West	+3·7	+3·3	+2·3	+2·1	+1·7	+5·3	+3·3	+0·1	−0·5	−1·7	+2·4	+7·0	+2·4
	43. Do. Central	+4·1	+4·1	+2·7	+1·9	+1·4	+5·5	+2·4	+0·1	−0·8	−1·4	+2·1	+6·2	+2·4
	44. Do. East	+5·8	+4·4	+3·2	+1·3	−0·1	+2·4	+2·0	−0·2	−0·7	−1·6	+0·6	+5·7	+1·9
Bombay (North)	45. Gujarat	−0·6	+2·2	+2·6	+0·2	+0·6	+4·0	+5·3	−0·4	+1·1	+0·9	+4·3	+3·6	+2·0
	46. Kathiawar and Cutch	−2·3	+0·9	+1·2	+1·6	−0·6	+2·4	+3·3	−0·2	+0·6	−0·4	+2·9	+0·4	+0·8
	47. Sind	−3·2	+1·9	+3·9	+1·6	+1·0	+3·1	+2·7	+2·8	+2·6	+0·3	+4·3	−0·4	+1·7
	48. Baluchistan Hills	−6·5	+0·2	+5·7	−2·5	−1·1	−1·8	+1·6	+1·6	+2·3	+1·1	+3·3	−0·9	+0·3
Rajputana and Central India.	49. Central India, East	−0·1	+2·6	+2·7	+0·6	+0·6	+5·2	+4·0	+0·2	−1·3	−2·1	+3·3	+4·1	+1·7
	50. Rajputana East, Central India, West.	−1·2	+3·1	+4·2	+1·3	+0·8	+4·7	+5·4	+1·4	−0·8	−1·1	+4·5	+1·4	+2·0
	51. West Rajputana	−2·9	?	+4·8	−1·1	+0·9	+5·6	+5·6	+4·5	−0·8	−0·5	+4·1	−2·2?	+2·0
Madras	52. East Coast, North	+3·0	+1·5	+1·2	+0·3	−0·7	+0·7	+0·8	+0·7	−0·3	+0·3	−0·3	+2·4	+0·8
	53. Hyderabad, South	+4·7	+4·0	+2·9	+1·6	+2·7	+2·9	+1·3	+1·2	+0·5	+0·8	+1·9	+3·9	+2·4
	54. Madras, Central	+4·0	+4·1	+2·7	+0·8	+2·1	+2·7	+1·1	+0·6	+0·7	+1·8	+2·3	+3·3	+2·2
	55. East Coast, Central	+2·2	+1·5	+2·2	−0·4	−0·9	+0·9	+0·4	+2·1	+0·6	+0·7	+0·4	+2·1	+1·0
	56. Do. South	+1·5	+2·2	+1·9	+0·1	+0·1	+2·0	+1·1	+3·0	+0·5	+1·2	+0·6	+1·3	+1·3
	57. Madras, South	+1·4	+2·4	+2·2	+0·8	+0·3	+0·1	+0·1	+1·1	−0·1	+0·3	+0·3	+0·7	+0·8

In the discussion of the meteorology of India during the year 1900, the year is divided into four seasons according to the following arrangement:—

1st.—The cold weather period, including the months of January and February.

2nd.—The hot weather period, including the months of March, April and May.

3rd.—The period of the south-west monsoon rains proper, including the months of June, July, August and September.

4th.—The period of the retreating south-west monsoon, including the months of October, November and December.

The following give a resumé of the chief features of the temperature conditions during the year:—

I.—The cold weather period.—(January and February 1900). Weather was finer and much drier than usual at the commencement of the year. Temperature was hence largely above the normal over the whole of Northern and Central India. It was in slight to moderate defect in Burma and South India. Fine dry weather continued until the 14th January in Northern India. Slight to moderate snow fell in Kashmir during feeble disturbances on the 1st and the 5th and 6th. The first disturbance was followed by a slight to moderate temporary reduction of temperature in Upper India. The effect of the second was more pronounced. The cold wave, due to that disturbance, was of considerable intensity and reduced temperature below the normal over the whole of Northern and Central India from the 8th to the 11th. Temperature increased during the same period in Southern India, and series of thunderstorms occurred from the 9th to the 11th.

A cold weather storm which apparently formed in Persia on the 11th advanced eastwards across Baluchistan on the 12th January into Northern India. A secondary depression formed in the Punjab on the 14th. The double disturbance gave much snow in the North-Western Himalayas and light to moderate rain over the greater part of Northern and Central India. This disturbance was followed by a cold wave of considerable intensity. It appeared in Baluchistan on the 16th and advanced rapidly eastwards. Remarkably low night temperatures were recorded in the hills and plains of North-Western India during the period from the 16th to the 20th.

The disappearance of this storm was almost immediately followed by a second storm of similar intensity.

It apparently formed in the Persian area on the 17th and 18th of January and entered Lower Sind on the 20th. A secondary depression formed on the 20th and 21st in the East Punjab. The primary depression advanced eastwards to West Bengal where it filled up on the 24th. The double disturbance gave heavier snow in the hills of North-Western India than the preceding storm and also general light to moderate rain over Northern India. The advance of the primary depression was followed by a vigorous cold wave. The reduction of temperature due to this cold wave was greatest in Baluchistan on the 23rd and 24th, in Rajputana and the Punjab on the 24th and 25th, and in the Gangetic Plain on the 25th and 26th.

Fine weather obtained in Northern India during the remainder of the month. During the second-half of the month, when temperature was more or less steadily below the normal in that area, it was, on the other hand, in moderate to considerable excess in Southern India and Burma.

Weather was slightly more disturbed than usual in February by the advance of a series of six depressions from the Persian area across Northern India. Two of the depressions were very feeble and gave no rain in Northern India. Of the remaining four, only one was followed by a well-marked cold wave. This was a storm which formed in Persia on the 21st. It advanced eastwards during the next four days and filled up in Bengal on the 26th. A secondary depression formed in the Punjab on the 24th and filled up on the 25th. Moderately heavy snow fell on the Western Himalayas. The accompanying cold wave advanced from Baluchistan on the 24th and 25th to Bengal on the 28th.

A noteworthy feature of the period was the contrast between the temperature conditions and variations in Tropical and Extra-Tropical India, which is the rule rather than the exception in the cold weather.

It was strikingly exhibited in the month of January. The mean temperature of that month was 2°.8 above the normal in Tropical India, and was 0°.3 below it in Extra-Tropical India. The contrast was less marked in February.

This contrast is due to the fact that the drift of cool air from the west which follows in the rear of the storms of the period is comparatively shallow and rarely crosses the West Ghats and Satpuras. Hence the cooling effect of these waves is restricted to Northern and Central India and the West Coast (usually as far south as Karwar and Mangalore).

The snowfall of the period was less than usual in Baluchistan, Afghanistan and the Western Himalayas. The rainfall in the plains of Northern and Central India was scanty in North-Western India, but was above the normal of the period in the eastern and central districts of the North-Western Provinces, Bihar and Chota Nagpur, which received thunder-showers from the cold weather disturbances in Northern India during the last fortnight of January.

The temperature conditions of the period were directly related to the chief abnormal features of the period which were:—

(1) Fewer cold weather storms than usual, in January. The storms were also of feeble intensity in February.

(2) The warm and cool waves accompanying the storms were, with three exceptions, feeble and exercised little or no influence on the mean temperature conditions of the period.

The following gives a summary of the chief features of these conditions:—

(1) The mean maximum or day temperature was in defect in North-West and West India and was in considerable to large excess in the interior of the Peninsula in January. The excess was largest in the Central Provinces, Berar and the Deccan, ranging between 2° and 7°. It was in general excess in February by amounts ranging between 2° and 6° over the whole of the interior. The excess was greatest in Berar and the Central Provinces where it averaged 4°.5 and 3°.9 respectively.

The following gives comparative data for the various provinces:—

Area.	Variation of mean maximum temperature from normal in		
	January.	February.	Cold weather period January and February.
	°	°	°
Burma	+0·9	+1·4	+1·2
Assam	+0·8	+0·8	+0·8
Bengal	+1·6	+2·0	+1·8
Orissa	+2·4	+2·6	+2·5
Bihar	—1·7	+0·2	—0·8
Chota Nagpur	+1·3	+3·6	+2·5
North-Western Provinces and Oudh	—1·3	+0·7	—0·3
Punjab	—1·8	+1·5	—0·2
Sind	—3·4	+3·1	—0·2
Rajputana	—3·4	+5·2	—0·1
Gujarat	—1·1	+2·4	+0·7
Central India	—2·8	+1·9	—0·5
Central Provinces	+3·6	+3·9	+3·8
Berar	+6·0	+4·5	+5·3
West Coast	—1·5	—0·1	—0·8
Bombay Deccan	+3·6	+3·6	+3·6
Mysore	+4·2	+3·3	+3·8
Madras Coast	+2·1	+1·9	+2·0
Madras Deccan	+4·7	+3·7	+4·2
South India	+2·1	+2·7	+2·4

The variations of the maximum temperature of the period were larger than usual and such as accompany a milder cold weather than usual. The most important variation was a large excess of nearly 4° in the large area including Berar, the Central Provinces, the Bombay and Madras Deccan and Mysore. Data for representative stations in these areas are given below:—

Station.	Variation of mean maximum temperature from normal in		
	January.	February.	Cold weather period January and February.
	°	°	°
Chanda	+6·1	+5·6	+5·9
Nagpur	+6·1	+4·8	+5·5
Akola	+6·4	+4·5	+5·5
Cuddapah	+5·7	+5·1	+5·4
Raipur	+5·4	+4·5	+5·0
Amraoti	+5·6	+4·3	+5·0
Bijapur	+4·9	+4·9	+4·9
Bangalore	+5·2	+3·9	+4·6
Seoni	+3·6	+5·0	+4·3
Hyderabad (Deccan)	+5·1	+3·3	+4·2
Chitaldroog	+4·6	+3·6	+4·1
Poona	+4·1	+3·6	+3·9
Bellary	+4·2	+3·5	+3·9
Sambalpur	+4·3	+2·9	+3·6
Sholapur	+3·8	+3·3	+3·6
Kurnool	+3·8	+3·1	+3·5
Raichur	+3·6	+2·9	+3·3

(2) The mean minimum or night temperature was in excess over the whole area except North-West India and Baluchistan (where it was in slight to considerable defect) in January and in general excess in February. The mean variations of the period were moderate to large in amount. The variations were most pronounced in the Central Provinces, Berar and the Madras Deccan (where the night temperature was in considerable to large excess in January and in moderate to considerable excess in February) and also in Orissa. They averaged 4° in amount for the period in the area including the Central Provinces, Berar, Hyderabad and the Madras Deccan, and 5° in Orissa. The following gives comparative data for the various provinces:—

Area.	Variation of mean minimum temperature from normal in		
	January.	February.	Cold weather period January and February.
	°	°	°
Burma	+3·0	+2·8	+2·9
Assam	+1·8	+2·1	+2·0
Bengal	+2·8	+4·2	+3·5
Orissa	+4·2	+5·8	+5·0
Bihar	+2·9	+2·4	+2·7
Chota Nagpur	+4·0	+3·3	+3·7
North-Western Provinces and Oudh	+2·6	+2·7	+2·7
Punjab	—1·0	+2·0	+0·5
Sind	—3·0	+0·6	—1·2
Rajputana	—0·6	+4·0	+1·7
Gujarat	—2·3	+0·7	—0·8
Central India	+2·6	+3·2	+2·9
Central Provinces	+5·0	+3·8	+4·4
Berar	+5·1	+3·1	+4·1
West Coast	+0·3	+1·2	+0·8
Bombay Deccan	+2·0	+1·7	+1·9
Mysore	+2·3	+2·7	+2·5
Madras Coast	+2·2	+1·1	+1·7
„ Deccan	+4·0	+4·3	+4·2
South India	+1·6	+2·8	+2.2

(3) The variations of the maximum and minimum temperatures were similar in character over nearly the whole

of India during the months of January and February. The mean temperature of both months was hence above the normal over the whole area except Upper India and the West Coast. The variations were greater than 3° in Chota Nagpur, Orissa, Berar, the Central Provinces, Mysore and the Deccan. The following gives comparative data for the various provinces:—

Area.	Variation of mean temperature from normal in		
	January.	February.	Cold weather period January and February.
	°	°	°
Burma	+2.0	+2·1	+2·1
Assam	+1·3	+1·5	+1·4
Bengal	+2·2	+3·1	+2·7
Orissa	+3·3	+4·2	+3·8
Bihar	+0·6	+1·3	+1·0
Chota Nagpur	+2·7	+3·5	+3·1
North-Western Provinces and Oudh	+0·7	+1·7	+1·2
Punjab	—1·4	+1·8	+0·2
Sind	—3·2	+1·9	—0·7
Rajputana	—1·5	+3·1	+0·8
Gujarat	—1·7	+1·6	—0·1
Central India	—0·1	+2·6	+1·3
Central Provinces	+4·3	+3·9	+4·1
Berar	+5·6	+3·8	+4·7
West Coast	—0·6	+0·6	0
Bombay Deccan	+2·8	+2·7	+2·8
Mysore	+3·3	+3·0	+3·2
Madras, Coast	+2.2	+1·5	+1·9
Madras, Deccan	+4·4	+4·0	+4·2
India	+1·9	+2·6	+2·4

The following gives comparative data for the area of decreased temperature in Upper India and Baluchistan and for five hill stations:—

Station.	Variation of mean daily temperature from normal in		
	January.	February.	Cold weather period January and February.
	°	°	°
Bushire	—1·5	+1·5	0
Quetta	—6·5	+0·7	—2·9
Hyderabad (Sind)	—4·3	+1·5	—1·4
Kurrachee	—3·2	+1·0	—1·1
Dera Ismail Khan	—2·8	+0·3	—1·3
Murree	—4·4	—1·4	—2·9
Leh	—4·8	—3·7	—4·3
Simla	—2·6	—0·3	—1·5
Chakrata	—3·1	—0·2	—1·7
Ranikhet	—1·5	—0·1	—0·8

The preceding data show that the effect of the cool waves accompanying the storms of the period was small and practically restricted to the north-west frontier and the hill districts and Baluchistan.

The following gives a brief statement of the cool waves of the period:—

(1) *Cool wave of the 16th to the 20th of January.*—This cool wave followed the first cold weather storm of that month which gave heavy snow in the Upper India mountain districts. The reduction of temperature was greatest in Baluchistan on the 17th and in Sind and Rajputana on the 18th.

This cool wave was of unusual character as it affected only North-Western and Western India and did not extend to North-Eastern India.

The following gives temperature variation data for the areas in which temperature was reduced below the normal by the advance of this cool wave:—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of				
	16th January.	17th January.	18 h January.	19th January.	20th January.
	°	°	°	°	
Baluchistan	—7·0	—15·0	—12·2	—3·1	—11·2
Sind	+0·7	— 8·6	—11·1	—6·5	— 6·4
Punjab	+1·3	— 1·3	— 7·6	—6·3	— 2·2
Rajputana	—3·0	— 4·6	— 8·5	—8·1	— 6·4
Gujarat	—2·4	— 4·9	— 9·1·	—7·4	— 2·5
West Coast	—0·3	— 1·8	— 3·5	—2·1	+ 0·9

The following gives data showing the greatest reduction of temperature accompanying the passage of the warm and cool waves accompanying this disturbance:—

Station.	Largest excess of temperature due to warm wave.	Date.	Largest defect of temperature due to cool wave.	Date.	Total range of variation of temperature during period.
	°		°		°
Quetta	+4·2	12th	—15·4	17th	19·6
Jacobabad	+3·8	16th	— 8·9	18th	12·7
Mount Abu	+6·1	13th	—14·6	18th	20·7
Kurrachee	+1·8	15th	—12·4	18th	14·2
Rajkot	+2·6	13th	—11·4	19th	14·0
Malegaon	+9·9	13th	— 8·0	17th	17·9
Bombay	+5·0	12th	— 5·7	18th	10·7
Ratnagiri	+1·6	13th	— 6·9	18th	8·5
Mangalore	+2·5	14th	— 2·9	18th	5·4

The preceding data illustrate clearly the extension of the cool wave along the West Coast of India.

(2)—*The cool wave of the 20th to the 26th of January*—The reduction of temperature following the disturbance of the 15th to the 18th was restricted to North-Western

and Western India and was large, although diminishing on the 19th, when the second disturbance of the month began to affect the temperature conditions of Upper India. This storm advanced along the Mekran Coast into Lower Sind and passed eastwards into Bengal. It gave the heaviest snowfall of the cold weather season in the Western Himalayas. It hence gave rise to a vigorous cool wave, which being superimposed on the former occasioned unusually low temperatures over the whole of North-Western India. The following data illustrate the progress of the cool wave :—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of							
	21st January.	22nd January.	23rd January.	24th January.	25th January.	26th January.	27th January.	28th January.
Baluchistan .	— 9·4	—13·6	—21·8	—20·7	—18·2	—7·8	—6·5	—2·2
Punjab . .	— 4·6	— 3·1	— 6·4	— 7·8	— 7·7	—6·8	—2·9	—0·8
Sind . .	—10·2	— 7·4	—11·2	—12·0	—11·1	—8·9	—3·2	—4·8
Rajputana .	— 1·3	— 3·5	— 8·2	—11·2	— 9·6	—7·9	—3·1	—1·1
Central India .	+ 4·5	+ 0·9	— 0·4	— 3·7	—10·6	—7·2	—3·9	—0·7
Gujarat . .	+ 0·7	— 3·6	— 8·6	—10·3	—11·5	—5·6	—3·7	—1·6
North-Western Provinces and Oudh.	+ 2·4	— 1·3	+ 0·2	— 1·6	— 2·6	—4·5	—4·0	—4·0
Bihar . .	+ 2·2	+ 3·8	+ 4·3	+ 2·6	+ 4·5	—1·1	—2·6	—1·8
Konkan . .	+ 3·2	— 1·6	— 2·4	— 2·8	— 0·9	+2·2	+1·5	+0·6

The data indicate that the reduction of temperature below the normal was greatest in Baluchistan on the 23rd, in the Punjab, Sind and Rajputana on the 24th, in Gujarat and Central India on the 25th, in the North-Western Provinces on the 26th, and in Bihar on the 27th. They show that the reduction of temperature was only large in amount in the areas affected by the previous cool wave.

The following gives data for ten representative stations :—

Station.	Least deficiency or greatest excess of temperature in front of storm.	Date.	Greatest deficiency of temperature in rear of storm.	Date.	Total range of variation of temperature during period.
Quetta	—2·2	19th	—26·6	24th	24·4
Jacobabad . . .	—3·6	19th	—10·3	24th	6·7
Mount Abu . . .	+3·0	21st	—14·0	24th	17·0
Rajkot	—0·8	21st	—12·0	25th	11·2
Jaipur	—0·2	21st	—11·8	24th	11·6
Lahore	+2·8	20th	— 7·6	25th	10·4
Indore	+6·1	21st	—13·5	25th	19·6
Malegaon . . .	+6·7	22nd	— 9·7	25th	16·4
Bombay	+2·4	21st	— 6·7	25th	9·1
Karwar	+4·7	21st	— 4·2	25th	8·9

The absolute minimum temperatures of the year were generally recorded in North-Western and Western India during the period of advance of this cool wave.

The following gives examples of the abnormally low minimum temperatures in that area :—

Station.	Lowest minimum temperature recorded in January 1900.	Date on which recorded.	Lowest minimum temperature recorded in January previous to 1900.	Year in which recorded.
Quetta . . .	3·3	24th	9·3	1897
Simla . . .	22·2	18th	19·2	1893
Murree . . .	21·5	23rd and 24th	18·0	1897
Mooltan . . .	34·0	24th	29·0	1878
Jaipur . . .	33·0	24th	35·0	1888
Kurrachee . .	40·1	18th	40·5	1899
Montgomery . .	31·0	25th	31·5	1895
Ajmer . . .	33·9	24th	31·0	1867
Peshawar . .	30·9	24th	82·8	1878 and 1880
Sirsa . . .	33·5	26th	30·0	1878

(3) *Cool wave of the 23rd to the 28th February.*—Several cold weather depressions and disturbances affected North-Western India during the monthof February. They were unusually feeble and the precipitation accompanying them was generally small in amount. They hence exercised little influence on the temperature which was above the normal during nearly the whole of the month, with one exception, *viz.*, the period of the depression which originated in Persia on the 21st and passed across Northern India between the 23rd and 25th.

The advance of the cool wave following this storm indicated by the following data :—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of date.					
	23rd February.	24th February.	25th February.	26th February.	27th February.	28th February.
Baluchistan . . .	+2·6	—4·1	—6·2	—2·2	?°	+1·9
Punjab	+5·6	+2·6	—1·3	+0·2	+1·0	+4·2
Sind	+6·5	+1·5	—0·4	—0·1	+1·9	+1·7
Rajputana . . .	+4·5	+4·3	—0·3	—2·0	—1·1	+1·1
North-Western Provinces and Oudh.	+0·1	+3·7	+2·9	+1·2	—0·5	—0·4
Bihar	—0·9	+0·4	+2·3	—0·1	+0·6	—2·5
Chota Nagpur . .	—1·0	+3·3	+0·5	+2·8	—0·5	—2·5
Bengal	—1·0	—0·4	+0·5	+0·6	+2·1	—1·9

The cool wave was hence of slight intensity compared with the cool waves of the preceding month of January.

There were in all six depressions in February which marched from west to east across Northern India. They were unusually feeble and gave very light snow in the hills. Hence the chief feature of these depressions was the warm waves in their front.

The following data for Quetta will illustrate the characteristic difference between the warm and cool waves in these six feeble storms of February :—

Period of depression in India.	Largest excess of temperature at Quetta in front of storm.	Date on which recorded.	Largest defect of temperature at Quetta in rear of storm.	Date on which recorded.	Range of variation.
	°		°		°
5th to 9th February.	+ 1·9	1st	—10·1	5th Feb.	12·0
9th to 12th „ .	+ 8·3	10th	— 2·9	12th „	11·2
16th to 18th „ .	+10·2	16th	— 2·2	18th „	12·4
20th and 21st „ .	+ 4·8	19th	— 1·3	21st „	6·1
22nd to 25th „ .	+ 3·6	23rd	— 5·6	25th „	9·2
27th to 1st March „ .	+ 9·3	28th	— 2·7	4th Mar.	12·0

The preceding data hence indicate that the warm waves are most marked when the storms do not give much snow in the hills and the cool waves when the storms give heavy and general snow.

II.—The hot weather period.—At the commencement of the month of March temperature was above the normal in North-West India and the Peninsula and was in defect in North-Eastern India, where thunderstorms were of frequent occurrence. A slight disturbance which affected the Punjab on the 3rd and 4th gave a moderate fall of snow in the Punjab and Kashmir Hills. A feeble cool wave advanced across Northern India during the period, the 6th to the 10th. Temperature was excessive during the period in the Deccan and Southern India, as is shown by the following data :—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of				
	6th March.	7th March.	8th March.	9th March.	10th March.
	°	°	°	°	°
Bombay Deccan .	+ 2·7	+ 2·9	+ 2·9	+ 2·9	+ 3·8
Madras Deccan .	+ 7·9	+ 5·9	+ 6·9	+ 5·9	+ 3·5
Mysore . . .	+ 5·4	+ 3·2	+ 4·5	+ 3·7	+ 2·5

A rapid increase of temperature occurred on the 9th and following days and temperature was very largely above the normal over the whole of North-Western India. The following gives comparative data for the 24 hours preceding 8 A.M. of the 17th, the hottest day of the period :—

Province or Division.	Variation from normal of		
	Mean maximum temperature of 24 hours preceding 8 A.M. of 17th March.	Mean minimum temperature of 24 hours preceding 8 A.M. of 17th March.	Mean temperature.
	°	°	°
Baluchistan	+ 17·9	+ 14·5	+ 16·2
Punjab	+ 12·3	+ 11·4	+ 12·1
Sind	+ 6·0	+ 8·5	+ 7·3
Rajputana	+ 6·2	+ 7·5	+ 6·9
North-Western Provinces . . .	+ 8·8	+ 3·9	+ 6·4
Central India	+ 5·1	+ 4·1	+ 4·6
Bihar	+ 4·5	+ 3·6	+ 4·1
Chota Nagpur	+ 8·4	+ 4·0	+ 6·1
Bengal	+ 0·7	+ 4·9	+ 2·8

The chief feature of the period was the remarkably high temperature (accompanying excessive dryness of the air) in the Punjab and Baluchistan. These conditions apparently did not extend into the interior of Persia or to Asiatic Turkey (represented by Baghdad).

A feeble disturbance of the hot weather type advanced westwards from Sind on the 19th to the foot of the Punjab hills on the 20th. It gave some snow on the hills and light showers on the plains and was followed by a considerable reduction of temperature on the 21st and 22nd over Upper India.

Frequent thundershowers occurred in Bengal and Assam from the 20th to 31st, during which period temperature was generally below the normal in those areas.

A hot weather depression, accompanying large excess of temperature, formed in Sind on the 26th. It advanced eastwards to the foot of the Simla and Mussooree hills and gave light showers in Baluchistan and the North-Western Himalayas. It was hence followed by a temporary moderate reduction of temperature in Upper India.

The mean temperature of the month of March was normal or in slight defect in the West Coast districts, East Bengal an Assam and was more or less in excess over the whole of the interior. The excess ranged between 4° and 7° in the Punjab, Rajputana and Upper Sind, where it was largest in amount.

Weather was feebly unsettled in the beginning of April in Baluchistan and Upper India. Rain fell in Baluchistan, the West and Central Punjab and Upper India hills, reducing temperature considerably below the normal in these areas on the 3rd and 4th.

A depression appeared on the 6th in Sind and advanced eastwards to the South Punjab on the 9th and a second depression formed on the 6th and 7th in the Central Provinces. The double disturbance gave heavy general rain over the whole of the Northern India on the 8th and 9th. As usual in the hot weather this rainfall reduced the day temperature very largely below the normal. At some

stations in North-Western India on the 9th and 10th the defect ranged from 20° to 30°.

Fine weather with increasing temperature held generally from the 10th to the 19th or 20th. Weather was feebly unsettled in the hill districts of Upper India and occasional rain or snow was received. This was followed on the 22nd, 23rd and 24th by a large reduction of temperature in North-Western India and temperature was more or less, considerably below the normal over the whole of Northern India during the next four days.

The variations of the mean temperature conditions of the month were small in amount over the greater part of India. The only important features were a moderate to considerable deficiency in the Punjab and North-Western Provinces due to the frequent falls of rain and snow on the adjacent hills and a moderate excess in Burma.

Weather was disturbed in Burma during the first week of May. A feeble cyclonic storm formed in the Andaman sea on the 2nd and advanced northwards into Lower Burma on the 5th. It gave a moderate burst of rain in that area which reduced temperature largely below the normal on the 4th, 5th and 6th.

Temperature increased over Northern and Central India during this period and was in large excess on the 5th and 6th. A hot weather depression of unusual intensity formed on the 5th and 6th in Upper Sind. It drifted eastwards on the 6th and 7th and gave abnormally heavy and general rain in Kashmir, the North-West Himalayas and North-Western India. A cold wave of considerable intensity advanced eastwards from the Punjab on the 7th to Bihar and Bengal on the 10th. The following data illustrate its progress:—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of					
	6th May.	7th May.	8th May.	9th May.	10th May.	11th May.
	°	°	°	°	°	°
Sind	+3·2	—2·6	—2·0	—1·1	—0·8	+0·8
Punjab	+4·7	—8·7	—9·4	—7·1	—3·3	+0·9
Rajputana	+4·3	—0·4	—2·3	—3·0	—1·9	+1·6
North-Western Provinces and Oudh.	+4·4	+4·7	+2·2	—0·8	—3·1	—0·8
Chota Nagpur	+3·1	+1·4	+0·3	—2·0	—5·5	—2·6
Orissa	+2·2	+1·2	+1·7	—1·2	—4·6	+1·5
Bihar	+3·7	+2·2	+3·9	+1·6	—3·8	—1·0
Bengal	+2·7	+0·4	+1·7	+0·2	—1·3	+0·2

The disappearance of this depression was followed by a disturbance of unusual character. Thunderstorms with rain commenced in Kathiawar on the 12th and the feeble disturbance gradually extended eastwards and northwards, so that on the 17th, 18th and 19th thundershowers were received over the greater part of Northern and Central India. The rainfall caused a very large reduction of temperature (more especially of the day temperature). The mean temperature was hence more or less below the normal from the 13th to the 19th or 20th over Northern and Central India, after which it increased rapidly and was in large excess on the 23rd and 24th. On the 25th another depression developed over the Punjab and rain again fell over Baluchistan, the Punjab and the North-Western Himalayas. This fall of rain was succeeded by a rapid fall of temperature in the north-west districts of India. This cold wave did not, however, extend beyond the Punjab and by the 29th had altogether disappeared. On the 30th there occurred a very general rise of temperature except in the north-east and on the 31st temperature was more or less excessive over the greater part of the country. The mean temperature conditions of the month generally differed very slightly from the normal, the only important feature being a moderate excess in the Deccan and Mysore.

The following gives a summary of the more important temperature conditions of the period.

(1) Temperature was considerably to largely above the normal in March and was in largish defect in April and normal or in slight excess in May in the Punjab and North-Western Provinces. On the mean of the period it was normal or in slight excess in North-Western and Central India, as is shown by the following data:—

Area.	Variation of mean temperature from normal in			
	March.	April.	May.	Hot Weather period, March to May.
	°	°	°	°
Baluchistan (Quetta)	+4·1	—1·5	—0·2	+0·8
Punjab	+3·9	—4·0	+0·6	+0·2
Sind	+3·9	+1·4	+1·0	+2·1
North-Western Provinces and Oudh.	+2·8	—1·7	—0·2	+0·3
Rajputana	+4·3	+0·7	+0·8	+1·9
Central India	+2·7	+0·6	+0·6	+1·3

The preceding data show that the deficiency of temperature was most marked in April. It was slightly greater in amount in the day than in the night temperature.

The following gives data for the area in which the deficiency was greatest in April:—

Station.	Variation from normal of		
	Maximum temperature, April 1900.	Minimum temperature, April 1900.	Mean temperature, April 1900.
	°	°	°
Rawalpindi	—6·3	—5·1	—5·7
Montgomery	—8·5	—2·9	—5·7
Khushab	—6·3	—4·1	—5·2
Cheraf	—7·8	—6·1	—7·0
Murree	—8·6	—5·9	—7·3
Chakrata	—6·5	—5·1	—5·8

(2) Temperature was normal or slightly in excess on the mean of the period in North-Eastern India and Burma. The monthly variations were small in amount throughout the period. The following table gives data in illustration :—

Area.	Variation of mean temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Bihar	+1·1	+0·8	—0·2	+0·6
Chota Nagpur	+3·4	+0·5	—0·4	+1·8
Orissa	+1·4	—0·3	—0·5	+0·2
Bengal	+1·2	+0·8	+0·2	+0·7
Assam	—1·3	—0·4	—0·2	—0·6
Lower Burma	+1·2	+2·1	+0·2	+1·2
Upper Burma	+0·3	+2·7	—0·3	+0·9

(3) The mean temperature was above the normal in the Peninsula, including Berar and the Central Provinces, throughout the whole period. The excess was moderate in March and May and slight in April. The following table gives data showing the variations of the mean temperature of that large area from the normal :—

Area.	Variation of mean temperature from normal in			
	March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Berar	+2·9	+2·5	+1·5	+2·3
Central Provinces	+2·6	+1·9	+1·2	+1·9
Bombay Deccan	+1·4	+1·2	+1·7	+1·4
West Coast	+0·1	—0·3	+0·8	+0·2
Madras Deccan	+2·8	+1·2	+2·4	+2·1
Madras Coast	+1·6	0	—0·8	+0·3
South India	+2·5	+0·8	+1·4	+1·6

The highest temperatures in India are usually recorded in the months of May and June in the dry area, including the Punjab, Sind and Rajputana. In 1900 the period of high temperature was unusually long and protracted in that area due to the great delay in the advance of the humid winds from the Bombay Coast into North-Western India.

The following gives data of the chief periods of greatest excess of temperature and of high temperature in that area :—

(1) *The 1st to the 6th May.*—The following table gives variation data of the mean daily temperature for this period in North-Western India, Berar and the Central Provinces :—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of					
	1st May.	2nd May.	3rd May.	4th May.	5th May.	6th May.
	°	°	°	°	°	°
Punjab	+3·7	+6·6	+6·7	+6·9	+6·6	+4·7
Sind	+4·7	+1·6	+2·2	+2·6	+3·6	+3·2
Rajputana	+4·3	+6·0	+6·5	+5·7	+4·1	+4·3
North-Western Provinces, West.	—0·8	+2·9	+5·4	+4·3	+2·5	+5·6
Central Provinces	—1·5	+0·1	+1·6	+2·7	+2·3	+2·6
Berar	—3·4	—0·1	+3·8	+5·0	+3·5	+2·0
Central India	+0·4	+1·3	+3·5	+4·2	+2·7	+2·4

The highest maximum temperatures registered at the hottest stations in that area were as follows :—

Station.	Date.	Highest maximum temperature recorded from 1st to 6th May.	Variation from normal.
		°	°
Jacobabad	1st	117·1	+10·1
Mooltan	2nd	112·9	+10·8
Lahore	3rd	113·1	+11·9
Akola	3rd	112·6	+5·2
Nagpur	5th	113·2	+4·7
Chanda	5th	113·2	+3·8

(2). *The 23rd to the 25th May.*—During this period temperature was excessive over the whole of Northern and Central India and the North Deccan. The excess was most pronounced in Orissa, Chota Nagpur, Bihar, the North-Western Provinces and Punjab. The following gives variation data for these areas from the 23rd to the 25th.

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of		
	23rd May.	24th May.	25th May.
	°	°	°
Orissa	+2·1	+3·8	+4·7
Chota Nagpur	+2·4	+6·5	+8·1
Bihar	+5·2	+5·1	+2·8
North-Western Provinces and Oudh	+3·1	+6·0	+4·9
Punjab	+3·0	+5·2	+6·1

The excess was, on the whole, not so large during this as during the preceding period. The following gives

the more noteworthy maximum temperatures recorded during this period:—

Station.	Date.	Highest maximum temperature recorded during period, 23rd to 25th May.	Variation from normal.
		°	°
Jacobabad	25th	117·1	+5·1
Mooltan	25th	113·4	+8·3
Lahore	25th	112·6	+9·2
Lucknow	25th	112·3	+8·0
Cawnpore	25th	112·0	+6·7
Allahabad	25th	112·1	+5·6
Chaibassa	25th	110·1	+10·2
Gaya	25th	110·5	+6·3
Cuttack	24th	109·0	+8·9

(3) *The 1st to the 11th June.*—The period from the 1st to the 11th June was characterized by very high temperature over the whole of the Peninsula and from the 7th to the 11th over Northern and Central India. This period of excessive heat, was immediately antecedent to the commencement of the monsoon rains on the Malabar Coast (*viz.*, the 12th of June).

The following gives variation data for the larger provinces:—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of				
	7th June.	8th June.	9th June.	10th June.	11th June.
	°	°	°	°	°
Burma	+1·6	+0·6	+0·2	+0·9	+0·3
Assam	+1·8	+0·4	+1·6	+3·1	+4·7
Bengal	+1·9	+3·0	+2·4	+3·1	+4·0
Orissa	+1·3	+2·3	+3·2	+1·9	+1·3
Bihar	+4·9	+3·6	+2·9	+4·3	+6·5
Chota Nagpur	+2·0	+1·5	+1·0	+2·3	+3·5
North-Western Provinces and Oudh.	+2·0	+3·9	+4·1	+1·8	+5·0
Punjab	+3·5	+3·3	+1·5	+3·3	+4·1
Sind	+4·2	+3·5	+2·8	+3·6	+7·0
Rajputana	+3·7	+3·8	+1·8	+4·1	+6·3
Gujarat	+1·6	+0·6	+1·0	+1·9	+3·7
Central India	+3·8	+4·8	+3·0	+4·1	+6·6
Central Provinces	+5·7	+5·0	+4·4	+5·2	+5·3
Berar	+1·5	+1·5	+1·3	+7·1	+3·1
West Coast	+4·1	+4·2	+2·9	+2·2	+2·0
Bombay Deccan	+5·2	+5·3	+1·9	+1·3	+2·8
Mysore	+2·3	+3·4	+3·8	+3·1	+3·1
Madras Coast	+2·1	+2·5	+2·2	+1·9	+3·1
Madras Deccan	+5·7	+3·9	+3·3	+2·0	+3·7
South India	+2·3	+3·9	+4·1	+3·0	+2·6

Very dry hot weather continued over the whole of North-Western India during the remainder of the month, and the influence of the sea winds extended very slowly into the interior.

The following gives variation data for every third day from the 12th to the 30th in that area:—

Area.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of						
	12th.	15th.	18th.	21st.	24th.	27th.	30th.
	°	°	°	°	°	°	°
Punjab	+5·2	+1·5	—0·3	+8·7	—1·3	+0·2	+8·4
Sind	+5·1	+5·3	+4·6	+2·9	+1·5	+1·1	+1·4
Rajputana	+9·0	+5·9	+5·2	+6·4	+4·6	+5·1	+8·5
North-Western Provinces	+5·6	—0·5	+3·3	+6·2	—2·8	+1·5	+8·2

Very high day temperatures were recorded in Sind and Rajputana on the 13th and 14th. At some stations they were the highest recorded during the year. The following gives the highest day temperatures recorded in these areas during this period. They were also the absolute maximum temperatures of the year at these stations:—

Station.	Date.	Highest maximum temperature recorded in year.	Variation from normal.
		°	°
Jacobabad	14th June	124·5	+11·7
Hyderabad (Sind)	" "	122·2	+18·3
Pachpadra	" "	121·3	+14·1
Jodhpur	" "	118·8	...
Bikaner	" "	118·3	+12·0
Deesa	13th "	118·1	+15·8

The following gives the variation of the maximum, minimum and mean daily temperature from the normal values on the 14th June at these stations:—

Station.	Variation from normal of		
	Maximum temperature of 24 hours preceding 8 A.M. of 14th June.	Minimum temperature of 24 hours preceding 8 A.M. of 14th June.	Mean temperature of 24 hours preceding 8 A.M. of 14th June.
	°	°	°
Jacobabad	+11·7	—0·7	+ 5·5
Hyderabad	+18·3	+2·6	+10·5
Pachpadra	+14·1	+2·8	+8·5
Bikaner	+12·0	+8·9	+10·5
Deesa	+15·5	+1·1	+ 8·3

The data hence indicate that the excess in temperature was chiefly a feature of the day hours. Very high maximum temperatures were also recorded in the interior of the

Peninsula during this period from the 1st to the 11th June. The following gives the more noteworthy:—

Station.	Highest maximum temperature recorded in June 1900	Variation from normal.	Date on which recorded.
	°	°	
Nellore	114·8	+ 9·6	3rd June
Chanda	114·7	+ 8·4	1st "
Nagpur	112·7	+ 7·6	4th "
Akola	112·6	+ 11·1	6th "
Hoshangabad	112·0	+ 8·4	6th "
Raipur	112·0	+ 7·2	1st "

The influence of the sea winds was later in reaching the Punjab, and the absolute maximum temperatures of the year at stations in that area were registered during two periods, *viz.*, the 21st and 22nd June, and the 2nd and 3rd July. The following gives the highest maximum temperatures recorded on the 21st and 22nd in that area (absolute maximum readings of the year being indicated by an asterisk):—

Station.	Date.	Highest maximum temperature recorded in June.
		°
Lahore	21st	118·6*
Ludhiana	22nd	114·4
Sialkot	21st and 22nd	117·5
Rawalpindi	21st	116·5
Peshawar	22nd	115·5
Khushab	22nd	118·4*

The following table gives variation data for the Punjab stations for the 22nd, the hottest day of the year in that area:—

Station.	Variation from normal of		
	Maximum temperature of 24 hours preceding 8 A.M. of 22nd June.	Minimum temperature of 24 hours preceding 8 A.M. of 22nd June.	Mean temperature of 24 hours preceding 8 A.M. of 22nd June.
	°	°	°
Delhi	+ 5·0	+ 5·2	+ 5·1
Sirsa	+ 6·6	+ 9·2	+ 7·9
Umballa	+ 7·9	+ 5·2	+ 6·6
Ludhiana	+ 0·7	+ 10·5	+ 5·6
Lahore	+ 13·5	+ 11·6	+ 12·6
Sialkot	+ 13·5	+ 8·4	+ 11·0
Rawalpindi	+ 12·4	+ 7·9	+ 10·2
Peshawar	+ 9·0	+ 4·8	+ 6·9
Dera Ismail Khan	+ 10·6	+ 8·6	+ 9·6
Khushab	+ 10·5	+ 3·8	+ 7·2
Mooltan	+ 5·6	+ 5·9	+ 5·8

The first burst of the monsoon rains occurred in the Punjab on the 6th or 7th of July. Abnormally hot weather preceded this burst in Upper India during the first three days of July and the highest temperatures of the year were recorded at several stations in the Punjab during that period. The following gives data in illustration:—

Station.	Date.	Highest maximum temperature recorded during the year.
		°
Ludhiana	3rd July	115·4
Sialkot	2nd and 3rd July	118·5
Rawalpindi	2nd and 3rd "	117·0
Peshawar	2nd "	118·0
Dera Ismail Khan	3rd "	118·2

Very dry hot weather held more or less steadily in North Western and Central India during the first ten days of July. The following gives mean temperature data of that area and of Berar and the Central Provinces for this period:—

Area.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of July									
	1st	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
	°	°	°	°	°	°	°	°	°	°
Punjab	+ 9·7	+ 11·0	+ 11·8	+ 10·4	+ 5·5	— 0·6	+ 0·2	+ 3·3	+ 4·9	+ 3·0
Rajputana	+ 9·3	+ 10·8	+ 8·7	+ 8·3	+ 6·9	+ 5·7	+ 5·7	+ 5·6	+ 5·6	+ 6·6
North-Western Provinces.	+ 10·2	+ 9·6	+ 8·9	+ 4·1	+ 2·3	+ 1·6	+ 1·3	+ 0·3	+ 4·2	+ 4·7
Bihar	+ 2·5	— 0·2	+ 1·0	— 3·0	— 2·8	+ 1·8	+ 1·6	+ 2·5	+ 2·3	+ 2·5
Chota Nagpur	+ 5·3	+ 8·2	+ 6·3	+ 4·7	+ 6·8	— 0·1	+ 0·2	+ 1·0	+ 1·2	+ 1·5
Central India	+ 11·1	+ 11·6	+ 9·9	+ 6·6	+ 5·4	+ 1·9	+ 5·1	+ 5·4	+ 3·9	+ 5·4
Berar	+ 9·1	+ 9·7	+ 7·5	+ 7·8	+ 3·8	+ 3·6	+ 6·2	— 1·2	— 4·8	— 7·0
Central Provinces.	+ 10·1	+ 10·1	+ 7·8	+ 5·0	+ 2·2	+ 2·8	+ 2·3	— 0·1	— 0·7	— 1·7

Very high maximum temperatures were recorded during this period, in some cases higher than have been previously registered in July. The following gives data:—

Station.	Highest maximum temperature recorded in July 1900.	Date on which recorded.	Highest maximum temperature recorded in July previous to 1900.	Year in which recorded.
	°		°	
Jhansi	113·9	1st July	113·2	1896
Agra	112·5	1st	111·0	1891
Allahabad	111·6	1st and 3rd	113·4	1876
Benares	110·3	3rd	116·0	1873
Mainpuri	109·2	3rd	108·3	1897
Cawnpore	109·0	2nd and 3rd	109·1	1891
Meerut	108·6	3rd	110·0	1876
Roorkee	107·2	2nd	113·2	1876
Sialkot	118·5	2nd and 3rd	119·5	1878

Station.	Highest maximum temperature recorded in July 1900.	Date on which recorded.	†Highest maximum temperature recorded in July previous to 1900.	Year in which recorded.
	°		°	
D.I. Khan	118·2	3rd July	120·5	1891 and 1892.
Peshawar	118·0	2nd	117·0	1892
Khushab	117·9	2nd	119·1	1891
Montgomery	117·0	3rd	120·4	1891
Rawalpindi	117·0	2nd and 3rd	115·0	1897
Lahore	116·6	2nd and 3rd	117·8	1891
Ludhiana	115·4	3rd	117·8	1881
Sirsa	115·3	4th	118·4	1891
Umballa	111·9	2nd	105·0	1897
Jacobabad	123·0	2nd	120·0	1899
Bikaner	112·9	2nd	114·3	1891
Kotah	112·6	2nd	108·1	1897
Jaipur	112·2	2nd	111·3	1891
Sambhar	111·0	2nd	110·0	1891
Nowgong	110·5	1st and 2nd	108·8	1878
Sutna	108·6	1st	106·5	1876
Ahmedabad	106·3	3rd	102·3	1897
Rajkot	104·9	2nd	103·9	1892
Bhavnagar Para	104·1	4th	101·2	1899

A brief temporary advance of humid winds lasting from the 10th to the 16th July into North-Western India caused a considerable reduction of temperature. This was followed by a partial break of the Bombay current lasting until the 26th, when the permanent advance occurred reducing temperature to the normal conditions of the rains.

The following gives examples of the excessive temperature variations during this hot period:—

Date.	Station.	Variation from normal of		
		Maximum temperature.	Minimum temperature.	Mean temperature.
		°	°	°
21st	Bikaner	+13·7	+7·3	+10·5
	Khandwa	+13·3	+4·3	+ 8·8
	Ahmedabad	+12·7	+6·4	+ 9·6
22nd	Agra	+11·6	+7·7	+ 9·7
	Jhansi	+13·4	+5·2	+ 9·3
25th	Deesa	+15·2	+3·4	+ 9·3
	Jaipur	+14·5	+3·5	+ 9·0
	Sambhar	+13·9	+1·4	+ 7·7
	Lahore	+11·2	+6·2	+ 8·7
	Ahmedabad	+ 4·5	+1·7	+ 3·1
	Jhansi	+12·7	+3·5	+ 8·1

III.—The south-west monsoon period.—The temperature variations of this period are usually small in amount and depend upon the distribution and amount of the rainfall. During the monsoon period of 1900 they were unusually large over the area which usually receives its rain from the Bombay monsoon current due to its unusual weakness in June and July and its strength in August and September. The monsoon rains set in somewhat later than usual in the Arabian Sea and extended to the Malabar Coast on the 12th June. During the first half of the period the Bombay monsoon current failed to extend to North-Western India, and the rainfall was hence very scanty. It was, on the other hand, abundant in August and September. The rainfall was heavy on the Malabar Coast from the 16th to the 20th June. It extended to Bombay on the 24th and gave eight to moderate rain in the Deccan and Central Provinces until the 10th July. Practically no rain fell in North-Western India during June.

A further advance occurred on the 10th July and following days carrying rain into Gujarat, Central India and Rajputana. This continued until the 19th, when a partial break occurred. Finally about the 26th the Bombay current set in in full strength, and rapidly advanced over the whole area dependent upon it, and held until the end of September.

The Bay current set in about the normal date and began to give general rain to Bengal and the Gangetic Plain from the 13th. It was fairly vigorous until September.

In the months of June and July, when the Bombay current was weak, the Bay current was chiefly determined to North-Eastern India and Burma which areas hence received more abundant rain than usual. On the other hand, in August and September, it was determined more largely than usual to the Gangetic Plain and Upper India. As usual under these conditions the rainfall in Assam and North and East Bengal was in considerable defect. West Bengal, Chota Nagpur and the Gangetic Plain, on the other hand, received abundant rain.

The preceding remarks hence indicate that the meteorological conditions of the first two months of the monsoon period differed very largely from those of the second half. It is hence necessary to state the more important features of the temperature conditions of these two periods separately.

(A.) The following gives the chief features of the temperature conditions of the first period, June and July 1900:—

1st.—Temperature was more or less considerably above the normal over the whole area dependent upon the Bombay monsoon current during the period. The excess was somewhat greater in the day than in the night temperature. The following table gives data in illustration:—

Area.	Actual mean temperature.		Variation of mean temperature from normal in		
	June.	July.	June.	July.	Period June and July.
	°	°	°	°	°
Baluchistan (Quetta)	73·3	80·6	−1·7	+1·4	−0·2
Punjab	95·6	91·3	+3·2	+2·6	+2·9
Sind	96·0	93·1	+3·1	+2·7	+2·9
Rajputana	96·5	91·2	+4·9	+5·4	+5·2

Area,	Actual mean temperature.		Variation of mean temperature from normal in		
	June.	July.	June.	July.	Period, June and July.
	°	°	°	°	°
Central India	93·9	85·0	+5·2	+4·0	+4·6
Gujarat	91·1	87·7	+2·9	+4·0	+3·5
Central Provinces	92·2	83·2	+4·7	+2·6	+3·7
Berar	91·3	83·3	+4·4	+2·9	+3·7
West Coast	81·8	80·0	+1·1	+1·1	+1·1
Bombay Deccan	82·7	78·2	+3·1	+1·9	+2·5
Madras Deccan	88·4	83·1	+2·7	+1·2	+2·0

The area of greatest excess of temperature during this period hence included Rajputana, Central India, Gujarat, the Central Provinces and Berar.

The following gives comparative data of stations in that area at which the excess was most marked:—

Station.	Variation of mean temperature from normal in		
	June.	July.	Period, June and July.
	°	°	°
Ahmedabad	+5·3	+6·4	+5·9
Bikaner	+5·6	+5·6	+5·6
Sambhar	+5·3	+5·4	+5·4
Jhansi	+5·3	+5·1	+5·2
Sutna	+6·4	+4·0	+5·2
Ajmer	+5·5	+4·8	+5·2
Hoshangabad	+5·3	+4·7	+5·0
ndore	+5·4	+4·1	+4·8
Neemuch	+4·4	+4·3	+4·4

2nd.—Temperature was generally normal or in slight excess in Burma and North-Eastern India which areas received fairly heavy monsoon rain in June and July. As is usual in the rains, the variations were slightly larger in amount in the day than in the night temperature.

The following gives comparative data in illustration:—

Area.	Variation of mean temperature from normal in		
	June.	July.	Period, June and July.
	°	°	°
Bihar	—0·4	+0·1	—0·2
Chota Nagpur	+0·3	+1·8	+1·1
Orissa	+0·8	+1·2	+1·0
Bengal	+0·1	+0·1	+0·1
Assam	+0·5	—1·3	—0·4
Upper Burma	+0·5	+0·5	+0·5
Lower Burma	+0·4	+0·6	+0·5

The variations were small in Southern India and at the hill stations in Northern India.

(B.) The chief features of the temperature conditions of the months of August and September were as follows:—

(1) Temperature was, on the whole, normal or in slight defect over the Gangetic Plain and Upper and Central India, as is shown by the following data:—

Area.	Variation from normal of mean temperature in		
	August.	September.	Period, August and September.
	°	°	°
Punjab	+1·1	—0·9	+0·1
Rajputana	+2·2	—0·9	+0·7
Central India	+0·2	—1·3	—0·6
North-Western Provinces and Oudh.	+1·1	—1·8	—0·4
Bihar	+1·2	—1·9	—0·4
Chota Nagpur	+0·4	—1·0	—0·3

(2) Temperature was normal or in very slight excess in North-Eastern India and Burma, as shown below:—

Area.	Variation from normal of mean temperature in		
	August.	September.	Period, August and September.
	°	°	°
Bengal	+1·6	—0·4	+0·6
Assam	+1·8	+0·5	+1·2
Burma	+0·2	0	+0·1

(3) Temperature was normal or in slight excess in the Peninsula, as is shown by the following data :—

Area.	Variation of mean temperature from normal in		
	August.	September.	Period, August and September.
	°	°	°
Berar	—0·3	—0·4	—0·4
Central Provinces	0	—0·7	—0·4
West Coast	+1·2	+0·7	+1·0
Bombay Deccan	+0·4	+1·8	+1·1
Madras Deccan	+1·0	+0·6	+0·8
Madras Coast	+1·9	+0·3	+1·1
South India	+1·5	—0·1	+0·7

The data hence indicate that the variations were not large but were such as accompany slightly stronger monsoon currents than usual and the determination of these currents to a greater extent than usual to Upper India.

IV.—The retreating South-West Monsoon period.—At the commencement of the period temperature was lower than usual over the whole of Northern and Central India, following the heavy rainfall of the previous month. A cyclonic storm which passed from the Bay into North-East India on the 9th and 10th October further reduced temperature in that area. Temperature continued below the normal over Northern and Central India until the 16th, when it began to increase rapidly, and was on the 20th and following days above the normal over the whole of North-Western India. The excess in he Punjab was chiefly due to abnormally high night temperature. During this period, from the 9th to the 19th, temperature was steadily in considerable to large excess in the centre and south of the Peninsula. Rain fell in that area on the 20th and 21st reducing temperature.

This effect soon passed away, and higher temperatures than usual prevailed during the remainder of the month in the Peninsula.

During the period from the 20th to the end of the month the mean daily temperature continued steadily below the normal in Northern India, due chiefly to low night temperature accompanying unusual dryness of the air.

The variations of the mean temperature conditions of the month of October were nowhere large but were well marked. The more important were :—

(1) Lower night and day temperature than usual in the North-Western and Central Provinces.

(2) Higher night and lower day temperature than usual in the Punjab.

(3) Higher day and lower night temperature than usual in North-Eastern India and the North Deccan.

(4) Higher day and night temperature than usual in the centre and south of the Peninsula.

November was exceptionally free from disturbance over the whole of India, and temperature was hence on the mean of the month generally largely above the normal. A very feeble disturbance in Upper India gave some rain form the 14th to the 16th followed by a brief moderate reduction of temperature in North-Western India. Temperature was steadily in excess during the remainder of the month, more especially in North-Western India. The excess was, on the whole, as large in amount in the night as in the day temperature in the areas of decreased humidity of the air, including North-Eastern India and the north of the Peninsula.

The period from the 19th to the 26th was characterized by a moderate excess of temperature during the day hours, and a very large excess at night over the greater part of North-West and Central India. The following gives comparative data for typical stations in that area :—

Station.	Variation from normal during period 19th to 26th November of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Jacobabad	+4·4	+9·6	+7·0
Khushab	+2·0	+5·9	+4·0
Sirsa	+1·9	+9·4	+5·7
Lahore	+3·7	+8·2	+6·0
Jaipur	+2·1	+8·7	+5·4
Ajmer	+2·2	+10·7	+6·5
Rajkot	+4·4	+10·1	+7·3
Indore	+4·6	+9·9	+7·3
Saugor	+4·3	+7·9	+6·1

The mean temperature of the month was practically identical with the normal in Burma, North-Eastern India and the eastern half of the Peninsula. It was in moderate to large excess over the remainder of India, the excess being greatest in the Punjab, Upper Sind and Rajputana where it ranged between 4° and 7°. The following gives comparative data for stations at which the excess was 5° or upwards :—

Station.	Variation from normal of		
	Maximum temperature, November 1900.	Minimum temperature, November 1900.	Mean temperature, November 1900.
	°	°	°
Jacobabad	+5·4	+7·7	+6·6
Quetta	+1·7	+8·3	+5·0
Rawalpindi	+3·9	+9·0?	+6·0?
Jhansi	+3·2	+6·8	+5·0

At the commencement of the month of December temperature was generally above the normal, the excess being large in Central India, Rajputana, the Central Provinces, Berar, Khandesh and the North Deccan. The excess was most pronounced in the night temperature,

which was from 12° to 20° above the normal at severa stations in that area during the first fortnight of the month. No important change occurred in the temperature conditions until the 19th. Three depressions advanced from Persia across Baluchistan into Upper India during the remainder of the month. The second and third storms gave moderate snow in Baluchistan, Kashmir and the Punjab hills, and were hence followed by a considerable reduction of temperature in Northern India, and temperature was more or less considerably below the normal in Upper India from the 25th to the end of the month. Temperature, on the other hand, continued excessive in the north and centre of the Peninsula. The mean temperature of the month was in slight defect in Upper India and in slight to moderate excess in Burma and North-Eastern India. It was in considerable to large excess over the interior of the Peninsula. The following gives data for stations in the area of greatest excess of temperature which included Khandesh, Berar and the eastern and central districts of the Central Provinces.

Station.	Variation from normal of		
	Maximum temperature, December 1900.	Minimum temperature, December 1900.	Mean temperature, December 1900.
	°	°	°
Khandwa	+6·4	+10·8	+8·6
Malegaon	+7·8	+ 9·2	+8·5
Akola	+6·6	+ 9·4	+8·0
Chanda	+5·2	+10·3	+7·8
Nagpur	+5·6	+ 7·8	+6·7
Jubbulpore	+3·6	+ 9·7	+6·7
Raipur	+5·5	+ 7·0	+6·3
Seoni	+4·7	+ 7·4	+6·1

The chief features of the mean temperature conditions of the period are given below:—

(1) Temperature on the mean of the period differed only slightly from the normal conditions in North-Eastern India and Burma. The following gives data in illustration:—

Area.	Variation of mean temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Bihar	—1·5	+1·1	+1·6	+0·4
Chota Nagpur	—1·1	+1·1	+3·6	+1·2
Bengal	+0·2	+0·6	+1·8	+0·9
Orissa	—0·1	+0·4	+3·6	+1·3
Assam	+0·6	+0·9	+1·4	+1·0
Burma	+0·8	0	+1·8	+0·9

(2) Temperature differed slightly on the mean of the whole period from the normal in North-Western India.

Temperature was normal or below it to a slight extent in that area in October and December and was in considerable to large excess in November, and hence on the mean of the whole period the variations were as small as in North-Eastern India. The following gives data:—

Area.	Variation of mean temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Baluchistan	+1·0	+5·0	—0·6	+1·8
Punjab	—1·0	+4·0	—0·1	+1·0
Sind	+0·3	+4·3	—0·4	+1·4
Rajputana	—1·0	+4·3	+1·4	+1·6
North-Western Provinces	—1·5	+2·7	+1·6	+0·9

(3) Temperature was in increasing excess throughout the period in the area including Berar, Central India, the Central Provinces, the Bombay Deccan and the Madras Deccan, and was in very large excess over the greater part of that area in the month of December. The following gives data:—

Area.	Variation of mean temperature from normal in			
	October.	November.	December.	Period October to December.
	°	°	°	°
Central India	—2·1	+3·2	+4·1	+1·7
Berar	—1·1	+1·6	+8·0	+2·8
Central Provinces	—1·6	+1·8	+6·3	+2·2
Bombay Deccan	+1·2	+2·8	+5·4	+3·1
Madras Deccan	+1·3	+2·1	+3·4	+2·3

The following gives comparative data for the stations at which the excess on the mean of the period was greatest:—

Station.	Variation from normal during period, October to December, of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Malegaon	+5·4	+2·8	+4·1
Akola	+3·7	+1·5	+2·6
Amraoti	+3·0	+2·6	+2·8
Khandwa	+4·9	+2·4	+3·7
Nagpur	+3·1	+1·9	+2·5
Chanda	+2·8	+2·8	+2·8
Sholapur	+3·6	+2·6	+3·1

The year.—The following table gives the variations of the mean temperature of Extra-Tropical and Tropical India and also of the whole of India from the normal, month by month, during the year 1900:—

Month.	Variation from normal of mean daily temperature in		
	Extra-Tropical India from Table II.	Tropical India from Table II.	Whole India from Table II.
	°	°	°
January	—0·3	+2·8	+1·2
February	+1·5	+2·7	+2·1
March	+2·9	+1·8	+2·4
April	—1·2	+1·4	0
May	—0·1	+1·8	+0·8
June	+1·5	+2·3	+1·9
July	+1·5	+1·1	+1·3
August	+0·7	+0·9	+0·8
September	—0·2	+0·4	+0·1
October	—0·6	+0·6	0
November	+2·2	+1·2	+1·7
December	+0·5	+3·0	+1·8
Whole year	+0·7	+1·7	+1·2

The preceding data indicate the chief variations of the mean temperature of the Indian land area from month to month during the year.

The most important feature of the mean temperature of the year was the excess over the whole Indian area.

The following gives comparative data in illustration:—

Area.	Variation from normal of		
	Mean maximum temperature.	Mean minimum temperature.	Mean daily temperature.
	°	°	°
Baluchistan (Quetta)	+0·1	+0·9	+0·5
Punjab	—0·3	+2·1	+0·9
Rajputana	+1·0	+2·7	+1·9
Sind	+1·8	+1·5	+1·7
Central India	+1·4	+2·3	+1·9
Chota Nagpur	+0·7	+1·5	+1·1
Central Provinces	+2·1	+2·4	+2·3
Berar	+3·0	+2·2	+2·6
West Coast	+0·2	+0·9	+0·6
Bombay Deccan	+3·1	+1·2	+2·2
Madras Coast	+1·0	+0·8	+0·9
Madras Deccan	+2·6	+2·1	+2·4
South India	+1·2	+1·4	+1·3

The excess was most pronounced in the areas including Upper Sind, South Rajputana, Khandesh, Central India, Berar, the west and south of the Central Provinces and the Deccan, in which it ranged between 2°·0 and 3°·1. It was 2°·5 or upwards at stations for which data are given below:—

Station.	Variation from normal of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Jacobabad	+2·5	+2·8	+2·6
Malegaon	+3·7	+1·3	+2·6
Akola	+3·3	+1·9	+2·6
Amraoti	+2·7	+2·4	+2·6
Nagpur	+2·9	+2·4	+2·7
Chanda	+2·8	+3·4	+3·1
Sholapur	+2·6	+2·6	+2·7
Bijapur	+3·7	+1·5	+2·6
Secunderabad	+2·8	+2·6	+2·7
Cuddapah	+3·4	+1·7	+2·5

The mean temperature of the year at the hill stations in the West Himalayas was generally slightly below the normal. At the remaining hill stations in Northern and Central India the excess was less than at the neighbouring plains stations.

The following gives comparative data for the Himalayan stations:—

Station.	Variation from normal of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Murree	—2·2	—0·6	—1·4
Leh	—2·7	—0·1	—1·4
Kailang	—0·1	+0·9	+0·4
Simla	—0·7	—0·3	—0·5
Chakrata	—1·3	—0·5	—0·9
Ranikhet	—0·3	+0·4	+0·1
Darjeeling	+1·2	+0·4	+0·8

The data hence indicate that the feature of higher temperature than usual on the mean of the year was exhibited in the lower atmospheric strata, and that in the middle and higher atmospheric strata the mean temperature of the year was probably lower than usual.

The following table gives the progressive variation of the mean actual temperature of India during the past 26 years:—

Year.	Number of stations.	Mean anomaly.	Progressive variation.
		°	°
1875	72	—0·29	...
1876	72	—0·08	+0·21
1877	74	+0·17	+0·25
1878	74	+0·62	+0·45
1879	70	—0·13	—0·75
1880	106	+0·13	+0·26
1881	110	—0·01	—0·14
1882	113	—0·11	—0·10
1883	122	—0·48	—0·37
1884	122	—0·61	—0·13
1885	118	—0·29	+0·32
1886	122	+0.08	+0·37
1887	126	—0·23	—0·31
1888	127	+0·36	+0·59
1889	81	+0·86	+0·50
1890	85	+0·13	+0·73
1891	72	—0·03	—0·16
1892	74	+0·66	+0·69
1893	68	—1·33	—1·99
1894	66	+0·11	+1·44
1895	69	+0·35	+0·24
1896	67	+1·30	+0·95
1897	75	+0·90	—0·40
1898	75	+0·65	—0·25
1899	52	+0·78	+0·13
1900	50	+1·17	+0·39

A remarkable feature of the meteorology of India during the past seven years 1894—1900 has been the persistent excess of temperature (averaging for the whole period 0·75°).

Atmospheric Pressure.

Full information of the barometers in use at Indian observatories and of the methods of reducing the observations and obtaining the mean daily and monthly pressures will be found in the annual reports formerly issued by the Department (*e.g.*, pages 58 and 59 of the report for 1890) and also in page 10 of the monthly review for January 1900.

In Table II of each monthly review the monthly mean daily pressure (corrected for temperature) is given in the fifth figure column, and the variation from the normal in the sixth figure column. The normal monthly mean pressure values were recalculated for all first and second class stations in 1896, and will be found in Table VI of the Annual Summary for that year. The additional data for the years 1891—1896 were utilized in calculating these means, which are hence based upon the whole of the available data up to the year 1896. The variation data in the monthly reviews for the year 1900 were obtained by a comparison of the actual monthly means with the corresponding normal monthly means published in the Annual Summary for 1896, and the variations of the monthly pressures of all first and second class stations in 1900 are given in Table XIII (below). The figures in the fifth and sixth figure columns of Table II appended to the present Annual Summary, giving data of the mean pressure of the air and its variations from the normal for all first and second class stations, are comparable with the corresponding data of previous years published in the annual reports and summaries.

In the seventh figure column of Table II in each monthly review the mean pressures reduced to sea-level and corrected to constant gravity (Lat. 45°) are given. These, it should be noted, are not comparable with the sea-level pressure values of the years 1875—90 as given in the annual reports for those years, for previously to 1891 no correction was made to reduce the monthly pressure means to standard gravity.

In Table I of each monthly review, and also in that appended to the Annual Summary, the pressure data are given for a fixed hour (*viz.*, 8 A.M. local time) of the day. The second figure column in those tables gives the mean 8 A.M. pressures for the month corrected for temperature. In the third figure column the variations of the mean 8 A.M. pressures from the normal mean 8 A.M. pressures are exhibited.

Normal 8 A.M. mean monthly data for the great majority of stations will be found in the Annual Summary of 1894, Tables VII and VIII.

The mean pressure data for the year 1900 will be found under the headings "Pressure" in Tables I and II appended to the present Annual Summary:—

TABLE XIII.—*Comparison of monthly mean pressures in 1900 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	Fort Blair	+·023	+·010	+·032	+·033	+·055	+·005	+·010	+·001	+·037	+·021	−·004	+·034	+·021
	Rangoon	−·010	−·012	+·018	+·013	+·034	−·017	0	−·041	+·014	+·004	−·015	+·012	0
	Diamond Island	0	−·004	+·019	+·021	+·042	−·019	−·001	−·032	+·025	+·006	−·010	+·011	+·005
	Cocos Island	−·032	−·018	+·026	+·056	?	?	?	+·021	?	?	+·026	+·032	?
	Akyab	−·013	−·013	+·017	+·011	+·033	?	+·006	−·054	+·031	+·019	−·018	+·002	+·002
Bengal and Orissa.	Chittagong	−·011	−·014	+·014	+·018	+·046	−·012	+·020	−·057	+·026	+·017	−·017	+·024	+·005
	Calcutta (Alipore)	+·001	−·010	+·002	+·027	+·076	−·007	+·028	−·040	+·038	+·045	−·020	+·011	+·013
	Saugor Island	0	−·011	+·007	+·028	+·074	−·014	+·022	−·052	+·024	+·037	−·017	+·005	+·009
	False Point	−·015	−·030	−·005	+·021	+·057	−·030	+·001	−·067	0	+·023	−·018	+·001	−·005
Gangetic Plain and Chota Nagpur.	Hazaribagh	+·004	−·001	+·017	+·015	+·057	+·006	+·021	−·036	+·014	+·044	−·020	+·008	+·011
	Darbhanga	0	−·029	−·005	+·009	+·059	+·007	+·019	−·021	+·043	+·030	−·027	+·006	+·008
	Allahabad	−·004	−·022	−·007	+·026	+·061	−·008	−·004	−·047	+·017	+·044	−·029	+·003	+·003
Upper Sub-Himalayas.	Dehra Dun	−·003	−·014	+·003	+·024	+·050	−·006	−·001	−·014	+·047	+·035	−·027	+·017	+·009
	Roorkee	−·006	−·019	−·001	+·043	+·063	+·003	+·009	−·014	+·058	+·045	−·031	+·018	+·014
	Meerut	−·020	−·031	−·013	+·030	+·054	?	−·008	−·036	+·047	+·040	−·039	+·010	+·003
	Lahore	−·010	−·014	−·007	+·051	+·062	−·006	−·008	−·020	+·056	+·052	−·039	+·015	+·011
	Ludhiana	−·004	−·013	−·007	+·036	+·052	?	+·015	−·025	+·042	+·038	−·021	+·027	+·010

TABLE XIII.—*Comparison of monthly mean pressures in 1900 with the averages of past years*—contd.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Indus Valley and North-West Rajputana.	Peshawar	−·016	−·012	−·006	+·057	+·080	+·022	−·001	−·014	+·033	+·048	−·028	+·016	+·015
	Jacobabad	+·027	−·020	−·011	+·032	+·056	−·004	−·012	−·035	+·015	+·046	−·040	+·027	+·007
	Kurrachee	+·031	−·002	−·003	+·012	+·081	−·002	+·015	−·040	+·019	+·057	−·020	+·016	+·014
East Rajputana, Central India and Gujarat.	Jaipur	−·006	−·012	+·008	+·030	+·068	+·002	+·013	−·043	+·031	+·052	−·019	+·002	+·011
	Deesa	+·004	−·002	+·012	+·008	+·068	0	+·006	−·050	+·016	+·052	−·022	−·005	+·007
Deccan	Belgaum	−·007	−·007	+·015	+·008	+·044	+·007	−·009	−·012	+·022	+·030	−·008	+·002	+·007
	Sholapur	−·024	−·024	+·007	+·009	+·054	−·008	−·003	−·024	+·009	+·037	−·006	−·027	+·002
	Poona	−·009	+·002	+·028	+·017	+·057	+·014	−·003	−·029	+·026	+·044	−·007	−·005	+·011
	Akola	−·034	−·020	+·017	+·012	+·061	−·005	+·003	−·032	+·012	+·051	−·002	−·010	+·005
	Buldana	−·020	−·013	+·021	+·015	+·059	−·005	−·001	−·037	+·009	+·054	−·004	−·008	+·006
	Khandwa	−·014	−·005	+·028	+·019	+·068	−·009	−·003	−·047	+·006	+·061	−·006	−·015	+·007
	Nagpur	−·026	−·014	+·019	+·024	+·062	−·002	+·014	−·035	−·003	+·060	−·001	−·001	+·008
	Hyderabad (Deccan)	−·012	−·019	+·020	+·026	+·048	+·006	0	−·014	+·013	+·047	−·017	−·013	+·007
West Coast	Bombay	+·005	+·008	+·028	+·026	+·066	+·023	−·002	−·035	+·028	+·043	−·019	−·003	+·014
	Karwar	+·012	+·014	+·040	+·028	+·066	+·023	+·002	+·013	+·035	+·040	−·004	+·019	+·024
South India	Salem	0	−·016	+·003	+·003	+·025	−·010	−·021	−·018	+·011	+·024	−·001	+·015	+·001
	Chitaldroog	+·005	−·015	+·026	+·010	+·034	+·015	−·016	−·003	+·025	+·033	−·022	−·009	+·007
	Bangalore	−·003	−·007	+·013	+·011	+·044	+·005	−·011	0	+·017	+·022	−·002	+·013	+·009
	Hassan	+·015	−·004	+·033	+·017	+·033	+·024	−·012	+·001	+·024	+·021	−·016	+·006	+·012
	Mysore	+·005	−·011	+·032	+·013	+·027	+·023	−·012	+·006	+·027	+·025	−·015	+·006	+·011
	Madras	+·002	−·012	+·011	+·022	+·056	−·011	−·005	−·016	+·016	+·032	+·004	+·019	+·010
	Bellary	−·021	−·025	+·016	+·005	+·041	−·006	−·014	−·013	+·013	+·025	−·009	+·004	+·001
Baluchistan.	Quetta	+·013	+·018	+·035	+·022	+·042	+·043	+·020	−·004	+·027	+·045	−·009	−·016	+·020
Hill Stations, Northern India.	Leh	−·044	+·028	+·074	−·028	+·056	+·035	+·031	+·012	+·027	+·034	+·030	−·014	+·020
	Srinagar	−·021	+·003	+·044	+·016	+·069	+·059	+·012	+·008	+·009	+·040	−·033	−·032	+·015
	Simla (Ridge)	−·013	+·006	+·047	+·026	+·059	+·028	+·021	+·016	+·050	+·052	+·017	+·008	+·026
	Chakrata	−·021	−·001	+·047	+·031	+·095	+·042	+·036	+·012	+·035	+·038	−·002	+·012	+·027
	Ranikhet	+·015	+·004	+·036	+·020	+·063	+·011	+·010	−·001	+·045	+·052	+·001	+·034	+·024
	Darjeeling	+·049	+·023	+·040	+·033	+·081	+·033	+·043	+·030	+·063	+·065	+·026	+·044	+·044
Hill Stations, Central India.	Mount Abu	−·053	−·021	+·012	−·006	+·043	+·009	+·004	−·054	+·007	+·031	−·024	−·032	−·007
	Pachmarhi	−·016	−·009	+·019	+·015	+·055	+·004	+·014	−·053	−·021	+·045	−·001	+·003	+·005
	Chikalda	−·023	−·010	+·016	+·015	+·055	+·004	+·004	−·041	−·015	+·039	−·004	−·002	+·003

TABLE XIII.—*Comparison of monthly mean pressures in 1900 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Hill Station, Southern India.	Wellington	+·014	+·007	+·028	+·014	+·055	+·019	—0·03	+·008	+·024	+·032	+·007	+·029	+·020
Extra Indian Stations.	Aden	+·015	—·022	+·011	+·013	+·051	+·058	+·027	+·018	+·001	+·036	—·030	—·029	+·012
	Perim	+·029	+·002	—·007	—·032	+·035	+·075	+·039	+·037	+·025	+·070	+·019	+·015	+·025
	Zanzibar	+·022	+·025	+·032	+·040	+·006	+·020	—·005	+·010	+·026	+·026	—·023	+·009	+·016
	Port Victoria (Seychelles).	+·005	—·002	+·030	+·004	+·002	+·034	—·003	+·030	+·025	+·023	—·020	—·006	+·010
	Mauritius	+·041	+·019	—·014	—·018	—·017	—·022	+·024	+·009	—·002	+·036	+·004	+·056	+·01

The following tables give summaries of the pressure variation data according to the two groups of divisions employed in the corresponding tables of temperature variation data, that is, for the sixteen divisions for which the variation data were given in the "Geographical Summaries" in the annual reports previous to 1891 and the eleven meteorological provinces in Table I of each monthly review:—

TABLE XIV.—*Geographical Summary of the pressure variation data of Table II in the monthly weather reviews of 1900.*

Meteorological Province.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalaya	5	—·017	+·008	+·050	+·013	+·068	+·035	+·022	+·009	+·033	+·043	+·003	+·002	+·022
Sikkim Himalaya and Nepal.	1	+·049	+·023	+·040	+·033	+·081	+·033	+·043	+·030	+·063	+·065	+·026	+·044	+·044
Punjab Plains	2—3	—·010	—·013	—·007	+·048	+·065	+·008	—·008	—·020	+·044	+·046	—·029	+·019	+·012
Gangetic Plain	4—5	—·007	—·023	—·005	+·026	+·057	—·001	+·003	—·026	+·042	+·039	—·031	+·011	+·007
Western Rajputana	4	+·002	—·011	+·003	+·012	+·062	+·001	+·003	—·045	+·014	+·047	—·029	+·002	+·005
Eastern Rajputana and Central India.	1	—·006	—·012	+·008	+·030	+·068	+·002	+·013	—·043	+·031	+·052	—·019	+·002	+·011
Nerbudda Valley	1	—·014	—·005	+·028	+·019	+·068	—·009	—·003	—·047	+·006	+·061	—·006	—·015	+·007
Chota Nagpur	1	+·004	—·001	+·017	+·015	+·057	+·006	+·021	—·036	+·014	+·044	—·020	+·008	+·011
Lower Bengal	2	+·001	—·011	+·005	+·028	+·075	—·011	+·025	—·046	+·031	+·041	—·019	+·008	+·011
Orissa	1	—·015	—·030	—·005	+·021	+·057	—·030	+·001	—·067	0	+·023	—·018	+·001	—·005
Central Provinces South and Berar.	5	—·024	—·013	+·018	+·016	+·058	—·001	+·007	—·040	—·004	+·052	—·002	—·004	+·005
Konkan	2	+·009	+·011	+·034	+·027	+·066	+·023	0	—·011	+·032	+·042	—·012	+·008	+·019
Deccan, Hyderabad and Mysore.	9	—·006	—·012	+·021	+·013	+·042	+·009	—·009	—·010	+·020	+·032	—·011	0	+·007
East Coast and Carnatic.	2	+·001	—·014	+·007	+·013	+·041	—·011	—·013	—·017	+·014	+·028	+·002	+·017	+·006
Arakan and Pegu	3—4	—·009	—·011	+·017	+·016	+·039	—·016	+·006	—·046	+·024	+·011	—·015	+·012	+·002
Bay Islands	1—2	—·005	—·004	+·029	+·045	+·055	+·005	+·010	+·011	+·037	+·021	+·011	+·033	+·023
Extra-Tropical India	22—24	—·005	—·009	+·013	+·023	+·065	+·008	+·010	—·024	+·031	+·044	—·017	+·008	+·012
Tropical India	23—25	—·007	—·009	+·021	+·018	+·048	+·003	—·002	—·020	+·017	+·033	—·007	+·007	+·009
Whole India	45—49	—·006	—·009	+·017	+·020	+·056	+·006	+·004	—·022	+·024	+·038	—·012	+·007	+·010

TABLE XV.—*Variations of the mean monthly pressure from the normal in 1900 in the eleven meteorological provinces of India.*

Meteorological Provinces.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands	—·004	—·007	+·010	+·008	+·037	—·014	—·001	—·040	+·026	+·007	0	+·019	+·003
Burma Inland . . .	+·029	+·012	+·008	+·019	+·052	+·005	+·012	—·033	+·057	+·027	—·008	+·011	+·016
Assam	—·004	—·008	+·012	+·019	+·055	—·011	+·015	—·026	+·060	+·035	—·007	+·013	+·013
Bengal and Orissa . .	—·003	—·015	+·002	+·021	+·066	—·014	+·022	—·037	+·039	+·038	—·001	+·018	+·011
Gangetic Plain and Chota Nagpur.	—·008	—·019	—·005	+·025	+·069	+·003	+·011	—·032	+·031	+·047	—·014	+·016	+·010
Upper Sub-Himalayas . .	—·012	—·008	—·007	+·037	+·061	+·001	—·001	—·012	+·050	+·047	—·019	+·023	+·013
Indus Valley and North-West Rajputana.	+·002	—·006	—·010	+·036	+·068	+·002	—·007	—·017	+·038	+·055	—·028	+·016	+·012
East Rajputana, Central India and Gujarat.	—·010	—·006	+·011	+·019	+·073	+·007	+·019	—·046	+·019	+·052	—·013	—·006	+·010
Deccan	—·015	—·013	+·012	+·019	+·064	+·004	+·010	—·033	+·008	+·054	+·007	+·004	+·010
West Coast	0	+·002	+·023	+·021	+·061	+·013	—·003	—·003	+·026	+·029	—·004	+·003	+·014
South India	—·002	—·007	+·014	+·015	+·052	0	—·003	—·005	+·019	+·029	+·013	+·020	+·012

I.—The cold weather period.—The mean pressure of the Indian area was normal or in very slight defect in January and February.

Weather was less disturbed and drier than usual in January. It was, on the other hand, somewhat more unsettled than usual in February in parts of North-Western India due to the advance of a series of six cold weather depressions across Baluchistan and Northern India during the month. They were, however, very feeble, and the accompanying precipitation of the month was generally below the normal over the plains of India.

Pressure varied from the normal over the Indian area in January by amounts averaging —·007″ for Tropical India and —·005″ for Extra-Tropical India, and in February it was in defect by amounts averaging —·009″ both in Tropical India and Extra-Tropical India. The mean pressure of the whole Indian area for the period was only ·008″ below the normal.

Pressure, on the mean of the period, was in slight relative excess in Gujarat, Kathiawar, Cutch and Sind and also in the centre and south of the Bay of Bengal. It was also in slight relative excess locally in the North Punjab and (if the observations can be accepted) in considerable excess in Upper Burma, and normal in North-East India. It was in slight relative defect over the remainder of India, including nearly the whole of the interior. The following table gives the mean pressure anomalies in different parts of India for the period:—

Area.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Baluchistan (Quetta) . . .	+·010	+·025	+·018
Punjab	—·005	+·006	+·001
Sind	+·026	+·004	+·015

Area.	Pressure anomaly.		
	January.	February.	Period January and February.
	"	"	"
North-Western Provinces and Oudh .	—·009	—·013	—·011
Rajputana	—·004	—·002	—·003
Gujarat	0	+·017	+·009
Central India	—·015	—·002	—·009
Central Provinces	—·015	—·006	—·011
Berar	—·021	+·007	—·007
Bihar	+·004	—·014	—·005
Chota Nagpur	0	+·007	+·004
Bengal	+·002	—·005	—·002
Assam	0	0	0
Orissa	—·008	—·024	—·016
Bombay Deccan	—·003	+·002	—·001
West Coast	+·004	+·010	+·007
Madras Deccan	—·008	—·013	—·011
Madras Coast	+·004	—·001	+·002
South India	+·005	+·004	+·005
Burma	+·012	+·008	+·010
Andamans (Port Blair) . . .	+·025	+·018	+·022
Ceylon (Colombo)	+·003	0	+·002

The only important local feature of the pressure conditions was a considerable excess in Upper Burma. Comparative data are given below for stations in that area, but

it is doubtful whether they can be accepted, as the observations taken at these stations have been more or less unsatisfactory from the beginning, and hence the means based on these observations are of very doubtful validity :—

Station.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Bhamo	+·068	+·051	+·060
Kindat	+·044	+·030	+·037
Mandalay	+·056	+·034	+·045

Pressure in January was generally in slight relative defect at the level of the hill stations in Northern India and in moderate excess in February, and was hence in slight excess on the mean of the period in the case of the majority of the hill stations in the North-West Himalayas and in Baluchistan. The following gives data for eight pairs of stations :—

Hill and Plain Stations.	Vertical pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Leh and Lahore	—·049	+·049	0
Murree and Peshawar	+·024	+·045	+·035
Simla and Ludhiana	—·006	+·011	+·003
Ranikhet and Bareilly	+·021	+·028	+·025
Chakrata and Roorkee	0	+·030	+·015
Darjeeling and Dhubri	+·052	+·056	+·054
Mount Abu and Deesa	—·037	—·003	—·020
Quetta and Jacobabad	—·015	+·040?	+·013?

The following data for eleven meteorological provinces illustrate the local conditions in India in January and February :—

Meteorological Province.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Burma Coast and Bay Islands	0	+·001	+·001
Burma Inland	+·033	+·020	+·027
Assam	0	0	0
Bengal and Orissa	+·001	—·007	—·003
Gangetic Plain and Chota Nagpur	—·004	—·011	—·008
Upper Sub-Himalayas	—·008	0	—·004
Indus Valley and North-West Rajputana.	+·006	+·002	+·004
East Rajputana, Central India and Gujarat.	—·005	+·002	—·002
Deccan	—·011	—·005	—·008
West Coast	+·004	+·010	+·007
South India	+·002	+·001	+·002

II.—The hot weather period.—Weather was less disturbed and much drier than usual in March over Northern India. Three storms or depressions formed or appeared in Upper India during the month, but they were of slight intensity, and hence affected the weather very slightly in Upper India. April was unusually disturbed, and the rainfall of the month was considerably above the average over the greater part of the country. In some parts of Southern India the rainfall of the month was three to four times the normal of the month.

May was hotter than usual. A cyclonic storm passed into Lower Burma from the Bay on the 5th and was followed by moderate rain during the next two days. Frequent series of thunderstorms occurred in Bengal and Assam during the second and third weeks of the month. Weather was also unusually disturbed in Upper India due to three hot weather depressions.

The mean pressure of the Indian area was in increasing excess throughout the period, and was in May largely above the normal of the month over the whole Indian area, as is shown by the following statement :—

Month.	Mean pressure variation.			
	Whole India.		Tropical India.	Extra-Tropical India.
	From data of Table I.	From data of Table II.		
	"	"	"	"
March	+·006	+·017	+·021	+·013
April	+·021	+·020	+·018	+·023
May	+·061	+·056	+·048	+·065

Pressure averaged ·029" in excess for the whole period.

The following table gives the corresponding temperature variation data for the whole of India :—

Month.	Mean temperature variation from data of Table II.		
	Whole India.	Tropical India.	Extra-Tropical India.
	°	°	°
March	+2·4	+1·8	+2·9
April	0	+1·4	—1·2
May	+0·8	+1·8	—0·1

Temperature was hence on the mean of the whole of India in excess in March and May and normal in April.

The pressure variations were opposite in character to those which usually accompany increased temperature

and were hence not due to abnormal features of the *local temperature conditions in India* but probably to *more general actions or conditions.*

The following gives local pressure variations or anomalies for each month and for the whole period in each of the eleven meteorological provinces :—

Meteorological Province.	Pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Burma Coast and Bay Islands	+·004	—·013	—·024	—·011
Burma Inland	+·002	—·002	—·009	—·003
Assam	+·006	—·002	—·006	—·001
Bengal and Orissa	—·004	0	+·005	0
Gangetic Plain and Chota Nagpur	—·011	+·004	+·008	0
Upper Sub-Himalayas	—·013	+·016	0	+·001
Indus Valley and North-West Rajputana.	—·016	+·015	+·007	+·002
East Rajputana, Central India and Gujarat.	+·005	—·002	+·012	+·005
Deccan	+·006	—·002	+·003	+·002
West Coast	+·017	0	0	+·006
South India	+·008	—·006	—·009	—·002

The above data show that the anomalies of the pressure distribution in India changed considerably from month to month during the greater part of the period, and that the only common feature throughout the period was a deficiency of pressure in Burma. The chief features indicated by the mean pressure anomalies of the period were—

(1) A slight to moderate relative deficiency of pressure in North-Eastern India and Burma and a slight excess in the Andamans. The deficiency was most persistent in Lower Burma and the excess in the Andamans.

The following gives comparative data for these areas :—

Area.	Pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Port Blair	+·017	+·005	+·003	+·008
Lower Burma	+·005	—·010	—·024	—·010
Upper Burma	+·011	—·003	—·009	0
Bengal	—·004	—·003	+·001	—·002
Assam	+·006	—·002	—·006	—·001

This feature of deficient pressure in North-Eastern India, it may be noted, was well marked in April and May, and it is almost certain was influential in determining the Bay current in the earlier months of the rains more largely than usual to Burma, Assam and East Bengal.

(2) A relative excess of pressure in Kathiawar and Cutch, Gujarat, the Konkan, Central India, Berar, the central and western districts of the Central Provinces and the West Deccan, most persistent and marked in Berar, Central India, Kathiawar and Cutch.

The following gives comparative data for that area :—

Area.	Pressure anomaly.			
	March.	April.	May.	Period March to May.
	"	"	"	"
Central Provinces (West and Central).	+·007	—·003	+·009	+·004
Berar	+·023	+·007	+·010	+·013
Central India	+·009	+·006	+·011	+·009
Kathiawar and Cutch	+·013	—·017	+·012	+·003
Gujarat	+·011	—·018	+·012	+·002
Konkan	+·017	—·001	+·008	+·008
Bombay Deccan	+·012	—·001	+·001	+·004

This feature was well marked in March and May, but tended to disappear in April. It was chiefly a product of the temperature conditions of the Indian area during the period.

A similar contrast of the local anomalies (*viz.*, the contrast between the local excess of pressure in the west and north-west of the Peninsula and the local deficiency in North-Eastern India) obtained in the hot weather periods of 1899, 1898, 1897, 1896, 1895, 1894, 1892, 1890 and 1880.

(3) A local excess of pressure in the Punjab. It was very feebly marked in May, but was fairly well marked in April. It was probably of little importance.

The following gives data in illustration :—

Area.	Pressure anomaly.			
	March.	April.	May.	Period. March to May.
	"	"	"	"
Punjab	—·013	+·024	+·005	+·005

This feature, it may be noted, does not appear to have extended into Baluchistan or Persia, an illustration of an important fact that the persistent and abnormal features of the pressure conditions in the hot weather are, as a rule, restricted to India and do not affect the plateau of Central Asia or the Persian area.

(4) Pressure varied very slightly from the normal in the Gangetic Plain, Rajputana and Sind, as shown by the following data:—

Area.	Pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Bihar	—·018	—·007	+·009	—·005
Chota Nagpur	+·005	+·003	+·003	+·004
North-Western Provinces and Oudh.	—·014	+·008	+·005	0
Sind	—·014	+·002	+·010	—·001
Rajputana	—·005	—·001	+·016	+·003

(5). An interesting feature of the pressure distribution of the period was the vertical pressure anomalies. They were positive and moderate on the mean of the period for the hill stations in North Western India. They were moderate to large in amount in March and small and generally negative in April and May.

The following gives the vertical pressure anomalies as determined from the pressure variations of eight pairs of stations in Northern and Central India:—

Hill and Plain Stations.	Vertical pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Quetta and Jacobabad	+·053	—·009	—·004	+·013
Leh and Lahore	+·070	—·082	—·007	—·006
Murree and Peshawar	+·047	—·026	+·007	+·009
Simla and Ludhiana	+·049	—·007	+·022	+·021
Ranikhet and Bareilly	+·040	—·009	—·002	+·010
Chakrata and Roorkee	+·054	—·004	+·049	+·033
Mount Abu and Deesa	—·006	—·011	—·028	—·015
Pachmarhi and Hoshangabad	—·011	—·009	—·011	—·010

A comparison of the vertical pressure anomalies of the period with the temperature variations will show that excess or positive values of the one accompanied positive values of the other, and that they were roughly proportional. This is shown more clearly by the following statement:—

Month.	Mean vertical pressure anomaly, (Murree, Simla and Ranikhet). (*a*)	Mean temperature variation (North-Western Provinces and Punjab). (*b*)	Ratio of (*a*) to (*b*).
	"	°	
March	+·045	+3·4	·013
April	—·014	—2·9	·005
May	+·009	+0·2	·045
Mean of period	+·013	+0·2	·065

The following gives a fuller statement of the abnormal features of the pressure conditions of May.

The mean pressure of the Indian area in May was largely above the normal (·061"). Pressure was, relatively to the general condition, more or less in defect in Assam and Burma and in Southern India and the South Deccan, and was in excess in the remainder of India. The local deficiency was most marked in Lower Burma and the Madras Deccan, and the local excess was greatest in Cutch, Kathiawar, Lower Sind, South-West Rajputana and the western half of Central India. The following gives data for stations in the areas of greatest excess and deficiency of pressure:—

Area.	Station.	Pressure anomaly in May.		
		1900.	1899.	1898.
		"	"	"
Burma area of deficient pressure.	Moulmein	—·030	—·002	—·029
	Rangoon	—·036	—·009	—·029
	Bassein	—·021	—·012	—·015
	Tavoy	—·049	—·016	—·038
South India and South Deccan area of deficient pressure.	Kurnool	—·025	+·008	—·001
	Cuddapah	—·030	+·014	—·004
	Salem	—·023	+·013	—·001
Western and Central India area of excessive pressure.	Kurrachee	+·022	—·005	+·024
	Bhuj	+·026	+·018	
	Rajkot	+·021	+·025	+·025
	Deesa	+·021	+·022	+·027
	Indore	+·023	+·029	+·025

The pressure variations in May 1887, 1894, 1895, 1896, 1897, 1898 and 1899 were similar in general character to those of May 1900, the chief difference being that they were slightly less marked in the year 1900 than in those years. The local deficiency in Southern India was a special feature of the year.

III.—The south-west monsoon period.—The south-west monsoon currents were established in the Arabian Sea much later than usual and were much below their normal strength until nearly the end of July. They began to give heavy rain on the Malabar Coast from the 12th and were strong until the 20th, when they fell off considerably in intensity. They strengthened again on the 24th and advanced northwards up the Konkan Coast as far as Bombay. The rainfall also extended during this period into the interior of the Peninsula and Central Provinces. Practically no monsoon rain fell in June over the large area comprising Gujarat, Kathiawar, Central India, West Rajputana, Sind or the South and West Punjab.

The Bay current was established at the head of the Bay on the 10th and 11th June and advanced rapidly up the Gangetic plain as far as Bihar during the next five days. A further advance accompanied the second storm of the month in the last week of the month and carried the rains over the greater part of the Gangetic plain and the East Punjab.

The Bombay current was weak during the first ten days of July. It increased on the 11th and advanced in moderate strength between the 11th and 16th over a considerable part of North-Western India. A second partial break occurred from the 19th to the 26th followed by a strong and fairly steady advance up to the limits of its extension in the Punjab.

The Bombay current was, during the next two months, stronger than usual and gave general and heavy rain over the whole of North-Western and Central India and the North Deccan.

The Bay current was of normal strength in July but was diverted more largely than usual to North-Eastern India. During the months of August and September, when the Bombay current was strong, the Bay current was diverted to some extent from Assam, North and East Bengal and was largely determined to the Gangetic Plain and Cen ral India.

The following gives a brief statement of the more important variations of the mean pressure conditions in India during the months of June and July, when the Bombay current was greatly delayed and was feeble as a rain giving current, or as estimated by the area of extension of cloud and high humidity.

1st.—The mean pressure of the Indian area in both months was almost exactly normal, as shown below:—

Month.	Mean variation of pressure from normal.		
	Extra-Tropical India.	Tropical India.	Whole India.
	"	"	"
June	+·008	+·003	+·006
July	+·010	—·002	+·004

2nd.—The local pressure variations in June and July before the complete establishment of the monsoon were on the whole similar to those of the preceding month of May.

The following gives data in illustration:—

Province.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Burma	—·020	—·006	—·004
Assam	—·006	—·011	+·008
Bengal	+·001	—·015	+·015
Orissa	+·015	—·016	+·014
Bihar	+·009	+·002	+·009
Chota Nagpur	+·003	—·004	+·009
North-Western Provinces and Oudh	+·005	+·004	—·002
Punjab	+·003	+·001	—·012
Sind	+·010	+·002	—·001
Rajputana	+·016	+·005	+·004
Gujarat	+·012	+·013	+·014
Central India	+·011	+·003	+·010
Central Provinces	+·008	0	+·006
Berar	+·010	+·010	+·006
West Coast	0	+·013	—·010
Bombay Deccan	+·001	+·012	0
Mysore	—·015	+·012	—·016
Madras Coast	+·003	—·005	—·005
Madras Deccan	—·019	—·002	—·009
South India	—·017	+·004	—·011

The most important local persistent features were the following:—

(1) Slight deficiency of pressure in Lower Burma and the Andaman Sea. This is shown by the data for six stations in that area:—

Station.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Mergui	—·028	—·007	—·011
Moulmein	—·030	—·010	—·010
Rangoon	—·036	—·019	—·009
Diamond Island	—·015	—·016	—·006
Bassein	—·021	—·018	—·005
Port Blair	+·003	—·002	—·005

(2) Slight deficiency of pressure over the greater part of Southern India, as shown below:—

Station.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Madras	—·012	—·014	—·018
Bangalore	—·008	—·001	—·021
Salem	—·023	—·006	—·022
Negapatam	—·008	0	—·009
Colombo	—·017	+·008	—·010

(3) A slight persistent excess of pressure over the area defined by the stations for which data are given below, and

including Gujarat, Cutch, Kathiawar, South-West Rajputana and the western districts of Central India :—

Station.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Veraval	—·010	+·028	+·012
Bhuj	+·026	+·010	+·020
Rajkot	+·021	+·014	+·015
Deesa	+·021	+·015	+·018
Neemuch	+·010	+·001	
Indore	+·023	+·021	+·022
Surat	+·003	+·012	+·002
Ahmedabad	+·018	?	+·026

(4) The vertical pressure anomalies were positive and moderate in amount at the hill stations in Northern India, indicating that there were no marked abnormal features in the vertical distribution of pressure. The excess of pressure at the level of the hill stations was a result of the high temperature in the adjacent plains.

(5) Pressure was in moderate defect in June at Mauritius and in moderate excess at the Seychelles and Zanzibar or gradients in the intermediate area were much below their normal intensity or strength. These abnormal conditions passed away in July. The following gives data :—

Station.	Variation of pressure from normal.		
	May.	June.	July.
	"	"	"
Mauritius	—·017	—·022	+·024
Zanzibar	+·006	+·020	—·005
Seychelles	+·002	+·034	—·003

The following gives the chief features of the mean pressure in India during the months of August and September, when both monsoon currents were vigorous, and were giving abundant rain over the greater part of the country.

(1) Pressure was in considerable defect in August and in considerable excess in September on the mean of he whole Indian area, as shown below :—

Month.	Extra-Tropical India.	Tropical India.	Whole India
	"	"	"
August	—·024	—·020	—·022
September	+·031	+·017	—·024

(2) The local pressure variations or anomalies in the months of August and September were of opposite character or sign over the greater part of India to those of the two preceding months. The following gives data :—

Province or Division.	Pressure anomaly.			
	Mean of June and July.	August.	September.	Mean of August and September
	"	"	"	"
Burma	—·005	—·017	+·012	—·003
Assam	—·002	—·001	+·032	+·016
Bengal	0	—·012	+·015	+·002
Orissa	—·001	—·027	—·010	—·019
Bihar	+·006	+·002	+·012	+·007
Chota Nagpur	+·003	—·012	—·020	—·016
North-Western Provinces and Oudh.	+ 001	—·005	+·011	+·003
Punjab	—·006	+·016	+·020	+·018
Sind	+·001	—·001	—·003	—·002
Rajputana	+·005	—·015	—·006	—·011
Gujarat	+·014	—·023	—·007	—·015
Central India	+·007	—·026	—·019	—·023
Central Provinces	+·003	—·018	—·034	—·026
Berar	+·008	—·002	—·016	—·009
West Coast	+·002	+·022	—·002	+·010
Bombay Deccan	+·006	+·002	—·007	—·003
Mysore	—·002	+·022	—·006	+·008
Madras Coast	—·005	+·016	—·011	+·003
Madras Deccan	—·006	+·015	—·011	+·002
South India	—·004	+·029	—·006	+·012

(3) The more important persistent local features or anomalies were :—

(*a*) Slight to moderate excess of pressure over the greater part of North-Western India, more pronounced in September than in August :—

Province or Division.	Pressure anomaly.	
	August.	September.
	"	"
Punjab	+·016	+·020
North-Western Provinces and Oudh	—·005	+·011
Bihar	+·002	+·012
Assam	—·001	+·032
Bengal	—·012	+·015

(*b*) A moderate to considerable deficiency of pressure over the broad belt of country between the areas of

increased pressure in Northern India and Southern India. The following gives comparative data:—

Province or Division.	Pressure anomaly.	
	August.	September.
	"	"
Central India	—·026	—·019
Berar	—·002	—·016
North Bombay	—·012	—·005
Central Provinces	—·018	—·034
Chota Nagpur	—·012	—·020
Orissa	—·027	—·010
Bombay Deccan	+·002	—·007
Rajputana	—·015	—·006

(*c*) Pressure was in slight to moderate local excess in Southern India in August and in slight defect in September due to the southward extension of the conditions (*a*) and (*b*).

(*d*) The vertical pressure anomalies were throughout the period positive in Northern India. They were large in amount in June, July and August and small in September. They were on the other hand, negative in Central and Southern India. The following gives data for ten pairs of stations:—

Pair of Stations.	Vertical pressure anomaly.				
	June.	July.	August.	September.	Period, June to September.
	"	"	"	"	"
Leh and Lahore	+·046	+·032	+·037	—·014	+·025
Murree and Peshawar	+·032	+·032	+·042	+·013	+·030
Quetta and Jacobabad	+·045	+·032	+·029	+·011	+·029
Simla and Ludhiana	+·054	+·050	+·053	+·018	+·044
Darjeeling and Dhubri	+·050	+·029	+·069	+·007	+·039
Ranikhet and Bareilly	+·025	+·021	+·033	+·001	+·020
Chakrata and Roorkee	+·057	+·048	+·034	0	+·035
Mount Abu and Deesa	—·014	—·022	+·001	—·019	—·014
Pachmarhi and Hoshangabad	+·021	—·006	—·020	—·022	—·007
Chikalda and Buldana	+·009	+·005	—·004	—·024	—·004

An important feature of this period is the succession of cyclonic storms which form usually in the Bay of Bengal and advance landwards, carrying heavy rain to these areas, and hence largely affecting and modifying the distribution of the rainfall of the period.

Two storms formed in the Bay in June. The first formed in front of the advancing monsoon in that area and passed into North-Eastern India, giving rain from the 12th to the 16th. The second storm formed in the north-west angle and passed into West and Central Bengal. It was of slight intensity.

One storm advanced from the Bay during the month of July. It marched from the head of the Bay on the 13th to the North-Western Provinces on the 15th. It was of moderate intensity. July was hence unusually free from storms in the Bay.

Four storms formed and advanced from the north of the Bay in August. They were all of slight to considerable intensity. The first marched north-westward across the Orissa Coast on the 31st July to the North-Western Provinces. The second crossed the Orissa Coast on the 10th and passed west-north-westward into Rajputana on the 14th. It gave a very heavy burst of rain over the whole area it passed over. The third storm crossed the Orissa Coast on the 18th and passed into East Rajputana on the 21st and filled up on the 22nd. It also gave very heavy rainfall to the districts it passed over, falls of 5 to 13 inches occurring in 24 hours at many stations in the storm area. The fourth storm crossed the Bengal Coast on the 26th and advanced north-westwards into the North-Western Provinces, where it filled up on the 31st.

The chief feature of the August storms (larger in number than usual) was the unusually heavy and general rain which they distributed over by far the greater part of Northern and Central India and the Central Provinces.

There was only one storm (a double storm of peculiar character) in September, remarkable for its prolonged existence from the 14th to the 28th and for the cyclonic downpour it gave over a portion of the area it traversed, more especially in South-West Bengal and the adjacent districts of Chota Nagpur and the Central Provinces.

The south-west monsoon proper of 1900 was characterised by a smaller number of disturbances than usual. August was the only month when the number was above the average.

IV.—*The retreating south-west monsoon.*—The south-west monsoon currents in the Bay withdrew much earlier than usual from the Bay area. In the first week of October weather was showery in Burma and Southern India and fine and dry elsewhere. There were two periods of stormy weather in the Bay. The first disturbance developed into a cyclonic storm of moderate intensity and advanced by a curved path into Orissa and Bengal, to which it gave a heavy downpour of rain from the 6th to the 12th. The Madras coast districts received frequent moderate rain from the 12th to the 19th. The second disturbance of the month in the Bay was diffused in character. It advanced from the centre of the Bay on the 22nd to the Coromandel Coast on the 24th, and broke up in the interior in North Mysore on the 25th and gave a moderate burst of rain to Southern India from the 24th to the 27th.

Weather was exceptionally fine and free from storms in the Bay in the months of November and December. Three feeble depressions advanced from Persia and Baluchistan into Upper India in the second half of December. They were of slight importance, except the second of the series. This formed over Persia on the 20th, passed through Baluchistan on the 21st and across Upper India on the 23rd and 24th. It gave some rain in the Punjab Plains and a moderately heavy fall of snow in the Punjab and Kashmir Himalayas. The chief feature of the period was the scanty rainfall over the greater part of the Peninsula. This accompanied the early withdrawal of the monsoon currents to the extreme south and south-east of the Bay in the last week of October.

The following table gives the pressure anomalies in the eleven meteorological provinces for each month of the period and for the whole period :—

Meteorological Province.	Pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Burma Coast and Bay Islands	—·033	+·004	+·009	—·007
Burma Inland	—·013	—·004	—·001	—·006
Assam	—·005	—·003	+·001	—·002
Bengal and Orissa	—·002	+·003	+·006	+·002
Gangetic Plain and Chota Nagpur	+·007	—·010	+·004	0
Upper Sub-Himalayas	+·007	—·015	+·011	+·001
Indus Valley and North-West Rajputana.	+·015	—·024	+·004	—·002
East Rajputana, Central India and Gujarat.	+·012	—·009	—·018	—·005
Deccan	+·014	+·011	—·008	+·006
West Coast	—·011	0	—·009	—·007
South India	—·011	+·017	+·008	+·005

The pressure anomalies varied very considerably from month to month during the period. Pressure was generally in large excess in October, and was approximately normal in amount in November and December. The local pressure anomalies in October and November were inverse in character. Pressure was locally in moderate to considerable defect in Northern India and in moderate excess in the Peninsula in November. It was, on the other hand, relatively in excess in Northern India and in defect in the Peninsula in October. In December the anomalies were generally small in amount and of little significance. The only important feature was a moderate deficiency of pressure in Kathiawar, Gujarat and South-West Rajputana, which was the continuation and development of a feature that was very slightly shown in October, and was of considerable importance during the next four months.

The following gives the chief abnormal features of the period :—

(1) Pressure was in moderate excess over the whole Indian area in October and practically normal in amount in November and December. The following gives data :—

Area.	Mean variation of pressure from normal.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Extra-Tropical India	+·044	—·017	+·008	+·012
Tropical India	+·033	—·007	+·007	+·011
Whole India	+·038	—·012	+·007	+·011

(2) Pressure was in very slight excess on the mean of the whole period in the Andamans and Chota Nagpur and in slight defect in Burma. Over the remainder of Northern India the anomalies were slight and of no importance. The following gives data :—

Area.	Pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Andamans (Port Blair)	—·020	+·019	+·021	+·007
Burma	—·026	+·003	+·004	—·006
Bengal	—·001	+·001	+·007	+·002
Assam	—·005	—·003	+·001	—·002
Orissa	—·013	+·011	+·005	+·001
Chota Nagpur	+·006	+·006	+·016	+·009
Bihar	+·006	—·005	—·037	—·002
North-Western Provinces and Oudh.	+·006	—·016	+·003	—·002
Punjab	+·011	—·017	+·009	+·001

(3) Pressure was in very slight excess on the mean of the period over the greater part of the Peninsula, as shown by the following data :—

Area.	Pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Central Provinces	+·012	+·014	—·011	+·005
Berar	+·028	+·018	—·010	+·012
West Coast	—·012	0	—·009	—·007
Bombay Deccan	+·011	+·006	—·014	+·001
Madras Coast	—·007	+·022	+·012	+·009
Madras Deccan	+·002	+·019	+·006	+·009
South India	—·016	+·017	+·011	+·004

(4) Pressure was in increasing defect during the period in a small area, including Cutch, Kathiawar, Gujarat, Khandesh and South-West Rajputana.

The following table gives comparative data for stations in this area :—

Station.	Pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Veraval	+·003	—·028	—·037	—·021
Rajkot	+·015	—·007	—·010	—·001
Surat	+·013	—·022	—·044	—·018
Deesa	+·019	—·013	—·025	—·006
Ajmer	+·001	—·020	—·029	—·016
Neemuch	+·008	—·014	—·028	—·011
Malegaon	+·013	—·003	—·026	—·005

This was in fact the only important persistent abnormal feature during the period. It was associated with a marked tendency to the formation of depressions in that region in the cold weather period of 1900-1901.

(5) A noteworthy feature of the period was the slight to considerable excess of pressure in the Persian area, which was apparently related to conditions in Southern Europe and Asia Minor and not to conditions in India :—

Station.	Variation of pressure from normal.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Baghdad	+·060	—·004	—·009	+·016
Bushire	+·045	—·010	+·008	+·014

(6) The vertical pressure anomalies were small and irregular in October and December and were large and positive in November. The following gives the vertical pressure anomalies as determined from the pressure variations of eight pairs of stations :—

Pairs of Stations.	Vertical pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Quetta and Jacobabad	—·023	+·032	—·039	—·010
Murree and Peshawar	—·004	+·048	—·001	+·014
Simla and Ludhiana	+·013	+·035	—·019	+·010
Ranikhet and Bareilly	+·005	+·038	+·019	+·021
Darjeeling and Dhubri	+·042	+·052	+·050	+·048
Mount Abu and Deesa	—·024	—·005	—·019	—·016
Leh and Lahore	—·018	+·065	—·034	+·004
Chakrata and Roorkee	+·002	+·039	+·001	+·014

The Year.—The mean pressure of the year was on the average of the whole Indian area ·010″ above the normal and was in excess in all provinces. The excess was greatest in the submontane districts of the Punjab and North-Western Provinces, where it slightly exceeded ·020″. Data in illustration are given in the following table :—

Station.	Variation from normal of mean 8 A.M. pressure of year.	Pressure anomaly of year.
	"	"
Rawalpindi	+·024	+·013
Sialkot	+·026	+·015
Umballa	+·024	+·013
Gorakhpur	+·024	+·013
Jalpaiguri	+·022	+·011

Pressure was in excess by small and nearly equal amounts over the remainder of India. The following gives mean variation data of the year for twenty areas :—

Province or Area.	Variation from normal of mean 8 A.M. pressure of year.	Pressure anomaly of year.
	"	"
Baluchistan (Quetta)	+·022	+·011
Sind	+·014	+·003
Punjab	+·015	+·004
Rajputana	+·010	—·001
North-Western Provinces and Oudh	+·008	—·003
Bihar	+·007	—·004
Bengal	+·010	—·001
Assam	+·008	—·003
Lower Burma	+·008	—·003
Central India	+·006	—·005
Gujarat	+·004	—·007
Berar	+·013	+·002
Central Provinces	+·009	—·002
Chota Nagpur	+·014	+·003
Orissa	+·003	—·008
Bombay Deccan	+·013	+·002
Madras "	+·011	0
West Coast	+·013	+·002
Madras Coast	+·014	+·003
South India	+·011	0

Pressure was on the mean of the year more largely in excess at the hill stations than at the neighbouring plain stations. The following gives data for six pairs of stations :—

Pairs of stations.	Vertical pressure anomaly of year.
	"
Murree and Peshawar	+·021
Simla and Ludhiana	+·014
Chakrata and Roorkee	+·025
Ranikhet and Barielly	+·018
Darjeeling and Dhubri	+·043
Quetta and Jacobabad	+·014

As temperature was above the normal on the mean of the year over the whole of India, the excess of pressure in the Indian area was not a local temperature effect, but the resultant probably of more general conditions or actions. The slight relative increase of pressure at the hill stations was, on the other hand, such as invariably accompanies increased temperature in the neighbouring plains.

The following gives the variations oft he mean pressure of Extra-Tropical and Tropical India and also of the

whole of India from the normal, month by month, during the year 1900, for convenient reference :—

Month.	Variation from normal of mean pressure in Extra-Tropical India from Table II.	Tropical India from Table II.	Whole India from Table II.	Variation of temperature, whole India, from Table II.
	"	"	"	°
January	—·005	—·007	—·006	+1·2
February	—·009	—·009	—·009	+2·1
March	+·013	+·021	+·017	+2·4
April	+·023	+·018	+·020	0
May	+·065	+·048	+·056	+0·8
June	+·008	+·003	+·006	+1·9
July	+·010	—·002	+·004	+1·3
August	—·024	—·020	—·022	+0·8
September	+·031	+·017	+·024	+0·1
October	+·044	+·033	+·038	0
November	—·017	—·007	—·012	+1·7
December	+·008	+·007	+·007	+1·8
Whole year	+·012	+·009	+·010	+1·2

The following gives the progressive variation of the mean annual pressure of the past 26 years for the Indian land area :—

Year.	Number of stations.	Mean anomaly.	Progressive variation.
		"	"
1875	33	—·007	
1876	35	—·007	0
1877	59	+·032	+·039
1878	65	+·002	—·030
1879	81	—·014	—·016
1880	93	—·003	+·011
1881	93	+·002	+·005
1882	93	—·010	—·013
1883	105	—·005	+·005
1884	107	+·010	+·015
1885	113	+·014	+·004
1886	118	—·003	—·017
1887	117	—·006	—·003
1888	109	+·011	+·017
1889	76	+·004	—·007
1890	77	—·009	—·013
1891	72	+·010	+·019
1892	72	—·022	—·032
1893	66	—·001	+·021
1894	66	—·012	—·011
1895	66	+·003	+·015
1896	68	—·001	—·004
1897	74	—·005	—·004
1898	74	—·018	—·013
1899	51	+·004	+·022
1900	49	+·010	+·006

The following gives a statement of the cyclones and more important cyclonic storms which affected the Indian area during the south-west monsoon of 1900, drawn up in the form adopted in the annual reports of the meteorology of India for the year 1886—1890. The tracks of these storms are given in Plate VI. at the end of the Summary :—

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	June	10th to 16th.	" ·49	Cyclonic storm of considerable intensity.	This storm was generated in the *north* of the Bay in front of the first permanent advance of humid south-west winds over the Bay. It drifted along a north-westerly track towards the Orissa Coast which it crossed near Puri on the morning of the 12th. It then began to recurve and marching through the eastern districts of the Central Provinces and Chota Nagpur passed into Central Bengal, where it filled up on the 16th. It was a storm of considerable intensity and gave a heavy burst of rain to the districts through which it passed. The strongest winds experienced in the storm area were of force 9 on board the *S.S. Itaura* and *Aratoon Apcar*.
2	June	21st to 25th.	·19"	Cyclonic storm of feeble intensity.	This storm formed in the north-west angle of the Bay of Bengal on the 21st and 22nd and advancing along a more northerly track than usual in June passed into South-West Bengal on the morning of the 23rd. It then recurved and marching north-eastwards passed into Central Bengal, where it broke up as a distinct cyclonic circulation on the 25th. The disturbance was throughout its existence feeble, the strongest winds in the Bay during its existence being only of force 7.
3	July	12th to 15th.	·26"	Cyclonic storm of moderate intensity.	This storm formed at the head of the Bay on the 12th and 13th. It drifted along a west-north-westerly track during the next two days, and was central near Agra on the morning of the 15th. It filled up rapidly during the day.

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
					The strongest winds experienced in the Bay during its existence did not exceed force 7.
4	August .	28th July to 8th August.	·19″	Feeble cyclonic storm.	This storm was generated in the north-west of the Bay, and drifting along a north-westerly track passed inland near Puri during the 31st July. It passed through Orissa and the Central Provinces on the 1st, into Baghelkhand on the 2nd where it filled up slowly during the next three or four days without changing its position to an appreciable extent. The strongest winds in the Bay during its existence were of force 9.
5	August .	8th to 16th	·27″	Cyclonic storm of moderate intensity.	This storm was generated in the north-west of the Bay on the 8th and 9th. It increased in intensity, and marching very slowly westwards crossed the Orissa Coast between Puri and False Point on the morning of the 11th. It continued to travel in the same westerly direction through the east of the Central Provinces on the 12th, the centre of the Central Provinces on the 13th, and South-East Rajputana and the western districts of Central India on the 14th, and was apparently absorbed into the area of quasi-permanent depression over the Western Desert on the 15th and 16th. The storm was noteworthy for the excessive burst of rain which accompanied it during its passage through the Central Provinces and Rajputana. The strongest winds experienced by ships in the Bay during its existence were of force 8.
6	August .	15th to 21st.	·45″	Cyclonic storm of considerable intensity.	This storm formed in the north of the Bay off the coast of Arakan on the 15th, and marching in a west by north direction passed inland across the Orissa Coast near Balasore on the morning of the 18th. It continued to drift in the same direction, and was central near Chaibassa on the 19th, Sutna on the 20th and to the west of Jhansi on the 21st. It broke up rapidly during the day. The storm was a concentrated disturbance and hurricane winds were experienced by the F. L. V. *Comet* on the afternoon of the 18th.
	August .	24th to 31st.	·18″	Feeble cyclonic storm.	This storm formed at the head of the Bay on the 24th and 25th. It travelled northwestwards and crossed the Bengal Coast to the east of Sangor Island during the 26th. The centre passed through Chota Nagpur on the 27th, the eastern districts of the North-Western Province on the 28th and the central districts of the North-Western Provinces on the 29th, and broke up during the next 36 hours. The strongest winds in the Bay were only of force 6.
8	September.	14th to 28th.	·22″	Cyclonic storm of moderate intensity.	This storm was the most remarkable of the year in several respects. It originated in the north-west angle of the Bay on the 14th and 15th, and drifting westward through Orissa passed into the east of the Central Provinces on the 18th. Whilst it was passing through the Central Provinces a second storm formed at the head of the Bay on the 18th and marching quickly westwards was absorbed by the first storm on the 19th. The combined disturbance developed and was practically stationary from the 19th to the 22nd. It began to move during the 22nd, and travelling slowly along a curved path through the Central Provinces during the next four days passed into the North-Western Provinces on the 27th and filled up in that area on the 28th. It had thus an existence of a fortnight, and is hence one of the longest lived storms in India on record. It occasioned an extraordinarily heavy downpour of rain in South and West Bengal. The strongest winds experienced in the Bay during the existence of the storm were of force 7.
9	October .	1st to 11th	·32″	Cyclonic storm of moderate intensity.	This storm was generated in the centre of the Bay on the 3rd and 4th and travelling northwards passed inland across the South Orissa Coast near Puri on the 6th. It thence passed into the south-east of the Central Provinces and was central near Raipur on the 8th. It now began to recurve and march in a north-easterly direction. The centre was near Daltonganj on the 9th and Hazaribagh on the 10th. It broke up during the next 24 hours. The strongest winds in the Bay experienced by vessels were of force 6.
10	October .	22nd to 25th.	·32″	Cyclonic storm of moderate intensity.	This storm was apparently generated to the east of the South Madras Coast on the 22nd. It drifted along a north-westerly track on the 23rd and crossed the Madras coast to the north of Madras on the morning of the 24th. The storm broke up rapidly as a distinct cyclonic circulation during the day. The strongest winds during the existence of the storm in the Bay were of force 7.

Winds.

The mean direction of the wind and the mean diurnal movement of the air, as measured by Robinson anemometers, are given for all second class stations in Table II in each monthly review. The normal values are also stated for the sake of ready comparison. The normal data of these elements, utilized in Table II of the Monthly Weather Reviews of the year 1900, will be found in a collected form in Tables XI and XII of the Annual Summary for 1896 (pages 638—644). The mean 8 A.M, wind directions for each month are laid down in the first chart in each monthly review. They are calculated in the usual manner by Lambert's formula from the 8 A.M., wind data given in Table I in each monthly review. As a general rule, the mean 8 A.M. wind directions vary little from the mean wind directions (calculated from the 10 and 16 hours wind data) in Table II of each monthly review, but in some cases and at certain seasons of the year they differ very considerably.

The chief features of the air movement over India in 1900 have been described in the monthly reviews of the year. The following gives a summary of the more important features for each period.—

I.—The cold weather period.—The first fortnight of January was remarkably free from cold weather storms. Two cold weather storms affected the weather in Northern India during the second half of the month, and occasioned a moderate to heavy burst of snow in the hills and of rain in the plains. There were six cold weather storms in February, but they were feeble, and the accompanying air movement was considerably less than usual in Upper India.

The winds at the hill stations in Northern India were generally considerably above their normal strength in January and moderately above in February. The following gives data in illustration :—

Station.	Mean daily air movement in miles.					
	Actual, January.	Normal, January.	Percentage variation from normal, January.	Actual, February.	Normal, February.	Percentage variation from normal, February.
Chakrata . .	212	123	+72	201	134	+50
Ranikhet . .	59	44	+34	54	57	— 5
Darjeeling . .	121	88	+38	168	137	+23
Mount Abu . .	168	119	+41	172	140	+23
Pachmarhi . .	97	78	+24	122	98	+24
Chikalda . .	162	123	+32	183	148	+24

Winds were on the mean of the month somewhat stronger and steadier than usual in January over the greater part of Northern India. They were below their normal strength in February in the Punjab and Sind and stronger than usual over the remainder of Northern India, and were on the mean of the period generally slightly above their normal strength, as is shown by the following data :—

Area.	Mean wind steadiness during cold weather period January and February.			Mean daily air movement in miles during cold weather period January and February.		
	Actual, percentage.	Normal, percentage.	Variation from normal.	Actual.	Normal.	Percentage variation from normal.
Bengal . . .	30	30	0	114	114	0
Bihar . . .	28	47	—19	82	77	+ 6
Chota Nagpur .	34	52	—18	171	154	+11
North-Western Provinces.	33	31	+ 2	86	62	+39
Punjab . .	30	23	+ 7	51	54	— 6
Rajputana . .	36	30	+ 6	164	149	+10

A noteworthy feature of the air movement at the head of the Bay in January was a strong easterly component in the northerly winds of the period instead of the normal feeble westerly component.

The chief feature of the air movement in February was the occasional occurrence of southerly winds on the Bengal Coast due to the passage eastwards of cold weather depressions across Bengal, rather than to the early establishment of hot weather conditions.

Winds were very irregular in direction on the mean of the period in Berar, Central India and the Central Provinces, although they were practically of normal steadiness. The following gives data of steadiness in illustration :—

Area.	Percentage of mean wind steadiness.			
	January.	February.	Mean of period January and February.	Variation from normal of period January and February.
Berar	24	42	33	+10
Central Provinces. . .	16	22	19	— 8

In Central India and the North Deccan the air movement was from north-west instead of from the normal north-easterly direction.

The air movement in Bombay, South India and Mysore was practically normal both in January and February. It was, on the other hand, somewhat stronger in both months in the Deccan, the Central Provinces and Berar and feebler in the Madras Coast districts.

The following gives comparative data showing the

variations of the intensity of the diurnal air movement from the normal in the Peninsula during this period:—

Area.	Mean daily air movement in miles.				
	Actual, January.	Actual, February.	Mean actual of period January and February.	Mean normal of period January and February.	Percentage variation from normal of period January and February.
Central Provinces	137	126	132	96	+38
Berar	152	155	154	117	+32
Deccan	152	155	154	149	+ 3
Madras Coast	99	106	103	133	—23
Mysore	149	134	142	142	0
Konkan	164	169	167	163	+ 2

The following gives a statement of the mean wind force and its variation from the normal in the Bay of Bengal and Arabian Sea:—

Area.	Mean daily force of wind (Beaufort's notation).					
	Actual, January.	Variation from normal, January.	Actual, February.	Variation from normal, February.	Mean actual of period January and February.	Variation from normal period January and February.
Bay of Bengal	2·9	—0·1	2·5	0	2·7	—0·1
Arabian Sea	3·7	+0·4	3·1	+0·1	3·4	+0·3

The statement indicates that the drift from north-east across the Arabian Sea was slightly stronger than usual in both months by amounts averaging about twenty miles per diem.

II.—The hot weather period.—Weather was on the whole less disturbed than usual in March and May in the Indian area, but was unusually disturbed in Northern India and the Peninsula in April.

The hot weather conditions were generally very strongly marked in March, more especially in the Punjab, Sind and Rajputana. The temperature variations were slight to moderate in amount in April and May, the chief features in these two months being a moderate deficiency in Upper India and a moderate excess in the Deccan area. There was a largish excess in Burma in April.

The chief features of the air movement of the period in Northern and Central India were:—

1st.—Winds were slightly steadier and more westerly than usual (more especially in April and May) at the coast stations of Chittagong and Calcutta and less westerly at Saugor Island and False Point. They were somewhat stronger than usual in March and April and of normal strength in May. The following gives data showing the actual westerly deflection at four stations:—

Station.	Westerly deflection.			
	March.	April.	May.	Mean of period March to May.
	°	°	°	°
Chittagong	—21	+35	+18	+11
Calcutta	— 6	+33	+25	+17
Saugor Island	—16	+ 1	— 2	— 6
False Point	—29	— 9	—18	—19

2nd.—Winds were stronger than usual in the North-Western Provinces during the period, more especially in April and May. They were on the mean of the period somewhat less steady than usual.

3rd.—Winds were on the mean of the period feebler but less variable than usual in Bihar and Chota Nagpur.

4th.—Winds were also on the whole much feebler, relatively to the normal, in the Punjab and to a less extent in Rajputana and Central India and were more westerly than usual, more especially in Rajputana and Central India.

5th.—Winds from northerly directions were much more frequent than usual in May at the hill stations in Northern India.

The following gives data showing the percentage variation of the air movement, month by month, from the normal during this period in Northern and Central India:—

Area.	Percentage variation from normal of mean daily air movement in			
	March.	April.	May.	Period March to May.
Bengal	+19	+12	— 1	+10
Bihar	—15	— 8	— 9	—11
Chota Nagpur	—10	0	—11	— 7
North-Western Provinces	0	+27	+ 7	+11
Punjab	—26	—14	—26	—22
Rajputana	— 2	— 1	—12	—5

The preceding data indicate that the air movement over the greater part of Northern India during the hot weather period was less vigorous than usual. The deficiency on the whole was most marked in the month of May. The most important variation of the direction of the air movement was the increased westing of the winds in Burma, Bengal and Rajputana.

The following gives the chief features of the air movement in the Peninsula:—

1st.—Winds were considerably stronger than usual thoughout the period in Berar, the Central Provinces and the Bombay Deccan. They were steadier than usual in March and May and of normal steadiness in April.

2nd.—Winds were practically normal in strength in the Madras Deccan and Mysore.

3rd.—Winds were throughout the period normal in strength and direction in the Madras and Bombay Coast districts.

The following gives data showing the percentage variation of the air movement from the normal, month by month, in the Peninsula:—

Area.	Percentage variation from normal of mean daily air movement in		
	March.	April.	May.
Berar	+36	+25	+17
Central Provinces	+24	+24	+ 6
Bombay Deccan	+14	+ 8	+ 9
Madras Deccan	+15	— 8	— 7
Mysore	+ 9	+ 4	— 8
West Coast	— 2	— 5	+ 4
Madras Coast	+ 3	— 5	+ 1

The following gives mean data for the winds in the Bay of Bengal and Arabian Sea for the period:—

Area.	Variation of mean daily force of wind (Beaufort's notation) in				Normal mean strength of winds during period.
	March.	April.	May.	Period March to May.	
Bay of Bengal	0	—0·1	+0·3	+0·1	2·7
Arabian Sea	—0·5	—0·2	—0·5	—0·4	2·9

The mean intensity of the air movement in the Bay of Bengal was, as in the preceding period, practically normal. It was, on the other hand, in moderate defect throughout in the Arabian Sea.

III. ***The south-west monsoon period.***—The Arabian Sea current was greatly delayed, and was not established on the Malabar Coast until the 12th and the Konkan Coast until the 25th of June. It extended very slowly and by a series of advances of increasing intensity into the interior and gave the first heavy general rain to the Central Provinces on the 25th June, to Gujarat and South-West Rajputana on the 11th and 12th July and to East Rajputana and the Punjab on the 10th July. The advance of the current over the Arabian Sea area was made somewhat more quickly than usual. The weather was very squally in front of the advancing current, but this irregular disturbance did not develop, as is usually the case, into a cyclonic storm. The south-west monsoon current was established in the Bay during the second week of June.

The first burst of the Bombay monsoon current was much less vigorous than usual, and the current, as judged by its extension into the interior and by the rainfall over the area of its prevalence, was much below its normal strength in June and July. It increased considerably in intensity, judged from the same standpoint, about the middle of July and was strong in August and September, giving unusually heavy rain in North-Western India. The Bay current was of about its normal strength throughout, but was determined more largely than usual towards Burma and North-Eastern India during the months of June and July and to the Gangetic Plain and Central India in August and September.

The comparative data in the table below, based upon the anemometric observations of four coast and four inland stations under the influence of the two currents, give an approximate estimate of the strength of the air movement of the two branches of the monsoon currents:—

Month.	Percentage variation from normal of mean daily air movement.			
	Bay of Bengal current.		Bombay current.	
	Four coast stations.	Four inland stations.	Four coast stations.	Four inland stations.
June	—2	—10	—19	+10
July	—5	—6	—11	+3
August	+18	+15	—4	+18
September	+17	+31	—7	+10
Mean of period	+7	+8	—10	+10

The data of the preceding table indicate that the Bay current as measured by the air movement at selected coast and inland stations was very slightly weaker than usual in June and July, but was unusually vigorous in August and September. The Arabian Sea current as gauged by the wind data of the Sind, Konkan and Malabar Coast stations was considerably below its normal strength in June and July and slightly below it in August and September.

The following table gives corresponding data for the steadiness of the two currents:—

Month.	Variation from normal of percentage of mean wind steadiness.			
	Bay of Bengal current.		Bombay current.	
	Four coast stations.	One inland station.	Three coast stations.	Four inland stations.
June	—1	—18	+ 4	+ 5
July	—1	+ 5	+ 3	— 5
August	—2	—25	— 2	+ 3
September	+1	+ 6	+13	+12
Mean of period	—1	— 8	+ 5	+ 4

The winds on the Sind and Konkan Coasts were, as shown by the data, slightly steadier than usual.

The comparative data given in the following table of the mean actual and normal force of the winds derived from the meteorological information contained in the logs of vessels navigating the Indian seas indicate that the air movement was below the normal to a moderate extent throughout the period in the Arabian Sea, and was in moderate excess in the Bay of Bengal on the mean of the whole period. The actual variations are chiefly derived from the vessels following four or five tracks in these seas, and hence do not necessarily indicate a variation common to the whole area. They, however, almost certainly establish that the current in the Arabian Sea was slightly below its normal strength throughout the period :—

Month.	Mean daily force of wind (Beaufort's notation) in the Bay of Bengal.			Mean daily force of wind (Beaufort's notation) in the Arabian Sea.		
	Actual.	Normal.	Variation from normal.	Actual.	Normal.	Variation from normal.
. . . .	4·6	4·0	+0·6	4·1	4·5	—0·4
. . . .	4·2	4·0	+0·2	4·2	4·6	—0·4
ust . . .	4·4	4·0	+0·4	4·1	4·3	—0·2
ember . . .	3·8	3·7	+0·1	3·3	3·5	—0·2
Mean of period .	4·3	3·9	+0·3	3·9	4·2	—0·3

The following gives a summary of the more important tures of the mean air movement during the months of e and July, during which period the Bombay current s below its normal strength and the Bay current ermined more largely than usual to Burma and North- st India :—

(*a*) Winds were more westerly than usual at Port Blair and were normal in direction in Lower Burma.

(*b*) Winds were above their normal strength in Bengal and lighter than usual in Orissa. They were, however, approximately normal in direction in Bengal, but much less westerly than usual in Orissa and at Saugor Island.

(*c*) Winds contained a strong easterly component in the Gangetic Plain, and were slightly stronger and steadier than usual.

(*d*) Winds were more directly from the west than usual on the West Coast.

(*e*) Winds were normal in direction in the Deccan and South India and slightly stronger than usual.

The most noteworthy features of the air movement of the period, August and September, when both currents, judging by the distribution of the rainfall were above their normal strength, were:—

(1) Winds were more westerly than usual at Port Blair and at the Bengal and Burma Coast stations, and less westerly or more easterly in Orissa and the interior of Bengal. Data in illustration are given for eight stations in the following table :—

Station.		Deflection from normal.		
		August.	September.	Period August and September.
		°	°	°
Port Blair	Increased westering.	+19	+21	+20
Diamond Island	Increased westering.	+ 7	+26	+17
Chittagong	Increased westering.	+26	+27	+27
Saugor Island	Increased westering.	+11	— 9	+ 1
False Point	Increased easting.	+16	—26	— 5
Calcutta	Increased easting.	+23	+33	+28
Dacca	Increased easting.	+29	+51	+45
Burdwan	Increased easting.	+63	+69	+66

(2) Winds were stronger than usual in the Bay Islands, Burma, Bengal, Orissa, Chota Nagpur and the North-Western Provinces and below their normal strength in Bihar throughout the period, as shown below :—

Area.	Percentage variation from normal of mean daily air movement in		
	August.	September.	Period August and September.
Port Blair	+57	+11	+34
Burma	+29	— 6	+12
Bengal	+17	+22	+20
Orissa	+ 6	+27	+17
Bihar	—28	—20	—24
Chota Nagpur	+14	+30	+23
North-Western Provinces and Oudh .	+30	+35	+33

(3) The air movement was below the normal during this period in the Punjab, Sind and Rajputana, as shown below :—

Area.	Percentage variation from normal of mean daily air movement in		
	August.	September.	Period August and September.
Punjab	—12	+ 4	— 4
Sind	—13	—11	—12
Rajputana	—11	—21	—16

It may be noted that the variations of the steadiness and mean direction of the air movement in these areas were on the whole small in amount and somewhat irregular.

(4) Winds were considerably above their normal intensity over the whole land area dominated by the Bombay current to the south of Rajputana :—

Area.	Percentage variation from normal of mean daily air movement in		
	August.	September.	Period August and September.
Central Provinces	+40	+25	+33
Berar	+30	+38	+34
Madras Deccan	+20	+18	+19
Bombay Deccan	+23	+10	+17
Bombay Coast	+29	+10	+20

(5) Winds were remarkably steady over the greater part of the area dominated by the Bombay current in August and September, as shown below :—

Area.	Percentage variation from normal of mean wind steadiness in		
	August.	September.	Period August and September.
Central Provinces	+9	+15	+12
Berar	+7	+20	+14
Madras Deccan	+9	+18	+14
Bombay Deccan	—1	+11	+ 5
Bombay Coast	—2	+19	+ 9

(6) Winds were practically normal in direction over the same areas.

(7) The winds at the hill stations in Rajputana and the Central Provinces were as largely above their normal strength as at the neighbouring plains stations :—

Station.	Percentage variation from normal of mean daily air movement in		
	July.	August.	September
Mount Abu	+15	— 4	+ 5
Pachmarhi	+ 3	+78	+90
Chikalda	—10	+ 4	+45

The following table gives the percentage variation of the strength of the winds from the normal, month by month, in different provinces throughtout the wh season :—

Area.	Percentage variation from normal of mea daily air movement in				
	June.	July.	August.	September.	Peri June Septem
Burma	+ 7	— 8	+29	— 6	+
Bengal	— 3	+ 7	+17	+22	+1
Bihar	— 4	—34	—28	—20	—2
Chota Nagpur	— 9	—15	+14	+30	+
North-Western Provinces.	+10	+20	+30	+35	+2
Punjab	—23	+ 9	—12	+ 4	—
Rajputana	+ 9	+10	—15	—21	—
Central Provinces	+20	+ 2	+40	+25	+2
Berar	+25	+44	+30	+38	+3
Bombay Deccan	+ 8	—10	+23	+10	+
Madras Deccan	+15	— 5	+20	+18	+1

IV.—The retreating south-west monsoon period.—The air movement in the Bay was on the me of the month of October slightly weaker and more unstea than usual. Winds were stronger than usual in Bur Bengal and Orissa and more northerly than usual in t interior of Bengal. Winds were, very light and variable direction over the interior of Northern India and in Cent India. The Arabian Sea current withdrew rapidly fr the north and centre of that area in the first fortnight October. Winds were normal in strength over that a in November, and were slightly stronger than us in the Madras Deccan and Madras coast districts. Win were less steady and feeble in the south and centre the Bay than usual in November.

Winds were less easterly and more northerly than the normal in November at Port Blair. Over the whole of Northern and Central India the westerly element was more strongly marked than usual. This was especially the case in Bengal. In the Deccan and Southern India winds were somewhat more easterly than usual. North-east winds extended over the whole of the Arabian Sea, and over nearly the whole of the Bay during the month, and the air movement in these areas in November on the whole resembled that of December and January.

The air movement in December was feebler than usual in the Bay and also in Burma Winds were more variable than usual and abnormally feeble in the Gangetic Rajputana, and Plain and the Punjab. Winds were very variable in at some stations the mean direction of the air movement was from north-east instead of the normal north-west. Winds were also light and more variable than usual in the northern half of the Peninsula, and were slightly stronger and steadier in South India.

The following is a summary of the chief features of the air movement of the period.

(1) The air movement varied irregularly from the normal during the period over Northern and Central India, but was, on the mean of the period, below it in all divisions

except Bengal. The deficiency was very marked throughout the period in Sind and the Punjab and to a slightly less extent in Bihar. The following gives data in illustration :—

Division.	Percentage variation from normal of mean daily air movement in			
	October.	November.	December	Period October to December.
Bengal	+16	+ 4	+ 8	+ 9
Bihar	—62	— 7	+ 8	—20
Chota Nagpur	— 8	— 1	+ 4	— 2
North-Western Provinces	—10	— 9	0	— 6
Punjab	—31	—29	—28	—29
Sind	—21	—33	—28	—27
Rajputana	—13	—11	+11	— 4

(2) The air movement was, on the whole, slightly stronger than usual in the area of greatest excess of temperature, including Berar and the Central Provinces, but was remarkably unsteady in the month of December when the temperature excess was most marked. The following gives comparative data of the velocity and steadiness of the winds during the period for stations in that area :—

Station.	Mean daily air movement in					
	October.		November.		December.	
	Actual.	Variation from normal.	Actual.	Variation from normal.	Actual.	Variation from normal.
Akola	92	+ 9	57	— 28	66	—14
Buldana	...	...	122	0	162	+30
Khandwa	76	+ 5	58	— 6	88	+26
Nagpur	103	+ 1	88	— 7	70	—13
Amraoti	149	+79	199	+127	170	+96
Chikalda	165	+26	125	+ 11	135	+18

Station.	Mean wind steadiness in					
	October.		November.		December.	
	Actual percentage.	Variation from normal.	Actual percentage.	Variation from normal.	Actual percentage.	variation from normal.
Akola	52	+20	54	+ 5	36	—21
Buldana	67	+18	58	+ 6	21	—22
Khandwa	39	+ 4	59	+ 7	32	—10
Nagpur	35	—14	25	—35	18	—36

(3) The air movement was stronger than usual over the southern half of the Peninsula, including the Madras Deccan, Mysore and South India, and was normal or below it in the Madras and Bombay coast districts, the Bombay Deccan, Central Provinces and Berar, as is shown below :—

Division.	Mean daily air movement in					
	October.		November.		December.	
	Actual.	Variation from normal.	Actual.	Variation from normal.	Actual.	Variation from normal.
Central Provinces	90	+ 3	72	— 8	79	+ 6
Berar	92	+12	90	—14	114	+ 8
Bombay Deccan	178	—13	186	—15	195	—10
Madras Deccan	108	+ 8	91	+ 8	99	+20
Mysore	127	+ 3	150	+ 7	181	+13
Bombay Coast	134	— 6	134	—14	134	—17
Madras Coast	128	+10	146	—10	165	—13
Southern India	64	+ 4	95	+21	104	+12

The air movement was also steadier over the whole of that area, except in the Bombay coast districts, Central Provinces and Berar, as shown below :—

Division.	Mean wind steadiness in					
	October.		November.		December.	
	Actual.	Variation from normal.	Actual.	Variation from normal.	Actual.	Variation from normal.
Central Provinces	37	— 5	42	—14	25	—23
Berar	52	+20	54	— 5	36	—21
Bombay Deccan	43	+25	69	+6	60	— 2
Madras Deccan	35	+11	71	+10	71	+ 4
Mysore	43	+28	82	+11	86	+ 3
Bombay Coast	66	+18	43	— 6	34	—22
Madras Coast	39	+22	84	+20	84	+ 5
Southern India	16	—13	48	+24	77	+27

Humidity.

The variations of the mean monthly and annual aqueous vapour pressure and humidity values from the calculated normals for the year 1900 are given in Tables XVI and XVII. The normal values employed in the determination of the variations are given in Tables XIII and XIV of the Annual Summary for the year 1896. The four tables (Tables XVIII to XXI) give variation data of aqueous vapour pressure and relative humidity for each month of the year and for the year :—

1st.—For sixteen meteorological areas adopted in the geographical summaries of meteorological data in the annual reports issued by the department previous to 1891.

2nd.—For nine meteorological provinces of the Empire.

TABLE XVI.—*Comparison of the monthly mean vapour pressure data of 1900 with the averages of past years.*

Meteorological Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	Port Blair .	+·054	+·056	+·027	+·031	+·018	+·029	+·033	+·034	+·016	+·015	−·026	−·013	+·023
	Rangoon .	−·002	−·014	+·003	+·034	+·032	+·026	+·016	+·022	+·006	+·021	−·042	−·025	+·006
	Diamond Island	+·082	+·063	+·008	+·027	−·002	+·029	+·009	+·029	+·026	+·038	+·015	+·011	+·028
	Cocos Island .	+·069	−·093	+·016	+·020	−·032	?	?	?	+·004	0	−·035	+·003	?
Bengal and Orissa.	Chittagong .	+·059	+·059	+·032	+·051	−·046	+·045	0	+·035	−·009	−·026	−·042	−·002	+·013
	Calcutta (Alipore)	+·082	+·078	+·044	+·013	−·015	+·019	+·022	+·030	−·013	−·035	−·023	+·032	+·020
	Saugor Island .	+·043	+·085	+·006	−·008	−·044	+·007	+·002	+·011	−·016	−·027	−·025	+·027	+·005
	False Point .	+·138	+·145	+·083	+·030	+·003	+·042	+·050	+·041	+·013	+·028	−·007	+·080	+·054
Gangetic Plain and Chota Nagpur.	Hazaribagh .	+·057	+·053	−·036	+·070	+·049	+·020	−·020	−·007	−·006	−·036	?	+·085	?
	Darbhanga .	+·046	+·038	+·032	−·052	−·035	−·008	+·014	+·039	−·029	−·015	+·006	+·013	+·004
	Allahabad .	+·035	+·018	−·016	−·039	+·025	−·035	−·043	−·002	+·008	+·006	+·033	+·049	+·003
	Dehra Dun .	−·036	−·008	−·026	−·023	−·029	−·067	−·002	+·017	+·023	−·031	+·016	+·019	−·012
Upper Sub-Himalayas	Roorkee . .	−·030	−·010	−·054	−·031	−·046	−·042	−·019	+·012	+·026	−·025	+·017	+·033	−·014
	Meerut . .	−·015	−·003	+·011	+·005	−·011	−·026	+·005	+·067	+·091	−·018	+·019	+·066	+·018
	Lahore . .	−·040	−·001	−·004	−·028	+·031	−·067	−·022	+·070	+·134	+·045	+·099	+·045	+·022
	Ludhiana .	−·050	−·032	−·055	−·065	−·073	−·080	−·042	+·065	+·090	−·019	+·065	+·055	−·012
	Peshawar .	−·029	+·034	+·043	−·021	+·075	−·053	+·001	+·034	+·165	+·007	+·048	+·022	+·027
Indus Valley and North-West Rajputana.	Jacobabad .	−·051	0	+·078	+·044	+·096	+·077	+·066	+·048	+·130	−·015	+·102	+·068	+·054
	Kurrachee .	−·153	−·027	+·023	−·030	−·012	+·022	+·016	+·045	+·032	−·042	+·067	−·063	−·016
Eastern Rajputana, Central India and Gujarat.	Jaipur . .	−·063	−·022	−·028	0	+·025	−·073	−·050	+·075	+·126	−·021	+·048	+·032	+·006
	Deesa . .	−·120	−·056	−·019	0	−·090	−·050	−·066	+·065	+·087	−·051	+·022	+·018	−·022
	Belgaum . .	−·005	−·042	−·067	−·031	−·054	−·010	+·021	+·024	+·016	−·075	−·068	+·011	−·023
Deccan	Sholapur . .	−·090	−·095	−·059	−·020	−·087	−·009	+·020	−·015	−·014	−·170	−·107	+·034	−·051

TABLE XVI.—*Comparison of the monthly mean vapour pressure data of 1900 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Deccan—*concld.*	Poona	−·041	−·050	−·047	−·031	−·085	−·038	+·032	+·023	+·014	−·096	−·072	+·027	−·030
	Akola	−·005	+·041	−·046	+·123	+·024	−·023	+·015	+·031	+·029	−·148	−·056	+·067	+·004
	Buldana	−·113	−·129	−·099	−·033	−·088	−·077	−·018	+·001	0	−·156	−·095	+·015	−·066
	Khandwa	−·076	−·109	−·082	−·027	−·085	−·046	+·008	+·038	+·055	−·084	+·009	+·083	−·026
	Nagpur	+·022	−·050	−·100	+·007	−·120	−·066	+·016	+·020	+·057	−·104	−·031	+·120	−·019
	Hyderabad (Deccan).	−·011	−·018	−·021	+·013	−·087	−·032	+·028	−·019	+·010	−·080	−·057	+·015	−·022
West Coast	Bombay	−·078	−·057	−·033	−·017	−·036	−·001	+·020	+·011	+·011	−·070	−·012	+·018	−·020
	Karwar	+·009	+·018	−·041	−·043	−·020	−·017	+·006	+·022	+·010	−·006	−·024	+·034	−·004
South India	Salem	+·005	+·032	+·004	+·010	+·050	−·004	+·005	−·004	+·033	−·020	+·030	+·031	+·014
	Chitaldroog	+·010	+·019	−·016	+·061	−·026	+·005	+·033	+·032	+·046	+·043	+·008	+·069	+·024
	Bangalore	−·006	+·005	−·055	+·005	−·064	0	+·023	−·001	+·036	+·001	−·021	+·024	−·004
	Hassan	−·035	−·025	−·072	−·018	−·087	+·012	+·048	+·044	+·044	+·001	−·032	+·005	−·010
	Mysore	−·056	−·017	−·041	+·065	−·014	+·015	+·036	+·046	+·051	+·021	−·014	+·046	+·012
	Madras	+·097	+·078	+·056	+·057	+·043	+·021	+·021	−·003	+·038	+·028	+·028	+·070	+·045
Baluchistan	Bellary	−·057	−·043	−·051	+·009	−·078	−·107	−·087	−·081	−·058	−·071	−·067	+·029	−·056
	Quetta	−·020	+·018	−·009	−·015	+·038	−·109	−·057	−·005	?	−·006	+·088	+·028	?
Hill Stations, Northern India.	Leh	−·036	−·040	−·011	+·015	+·014	−·008	+·019	+·026	+·036	+·069	+·023	−·028	+·007
	Srinagar	−·001	+·042	+·093	+·027	+·081	+·025	+·092	+·107	+·139	+·043	+·100	+·028	+·065
	Kailang	−·006	−·007	+·006	−·006	+·005	−·011	−·002	+·033	+·057	+·049	+·022	+·010	+·013
	Simla (Ridge)	−·010	−·006	−·023	−·034	−·005	−·068	−·024	0	+·017	−·028	−·006	+·018	−·014
	Chakrata	−·007	+·011	−·013	−·025	+·002	−·047	−·034	+·004	+·012	−·028	+·014	+·007	−·009
	Ranikhet	−·023	+·004	−·038	−·041	−·022	−·024	+·004	+·023	+·011	−·034	+·020	0	−·010
	Katmandu	−·016	+·023	−·004	−·056	−·027	+·004	+·009	+·024	+·006	+·011	+·020	−·016	−·002
	Darjeeling	+·001	+·006	+·031	−·013	−·011	?	+·011	+·017	−·024	−·014	+·005	?	?
Hill Stations, Central India.	Mount Abu	−·062	−·020	+·018	+·028	−·028	−·057	−·017	+·047	+·052	−·054	+·033	+·027	−·003
	Pachmarhi	−·014	−·044	+·079	+·202	+·170	+·107	+·048	+·028	+·044	−·097	−·016	+·106	+·051
	Chikalda	−·051	−·058	+·004	+·138	+·030	−·036	−·001	+·013	+·035	−·101	−·052	+·069	−·002
Hill Station, Southern India.	Wellington	−·018	+·021	−·031	+·014	−·025	−·025	+·019	+·012	+·036	−·002	+·006	+·026	+·003
Extra Indian Stations.	Aden	−·055	+·052	−·001	−·087	−·011	−·007	−·003	+·006	−·008	+·003	+·046	+·048	+·001
	Perim	−·039	+·043	+·041	+·037	+·064	+·072	+·097	+·189	+·146	+·216	+·285	+·157	+·119
	Zanzibar	+·020	+·026	+·008	+·017	+·022	+·007	+·023	−·022	−·023	−·005	0	−·008	+·005
	Port Victoria (Seychelles).	+·013	+·043	+·043	+·055	+·047	+·054	+·038	−·001	+·014	+·009	−·001	+·023	+·028

TABLE XVII.—*Comparison of the monthly mean relative humidity data of 1900 with the averages of past years.*

Meteorological Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands	Port Blair	+ 2	+ 1	− 1	− 1	− 1	− 3	− 1	− 2	− 1	− 2	− 3	− 5	− 1
	Rangoon	− 1	− 3	− 2	− 2	+ 3	+ 1	0	0	− 2	0	− 2	− 4	− 1
	Diamond Island	+ 3	+ 1	− 1	− 2	+ 2	− 1	− 2	− 1	− 3	− 3	− 4	− 5	− 1
	Cocos Island	+ 2	+ 5	− 1	− 5	−12	?	?	?	− 2	− 2	− 7	− 4	?
Bengal and Orissa.	Chittagong	+ 1	+ 1	0	+ 4	− 5	0	− 1	− 1	− 2	− 4	− 5	− 4	− 1
	Calcutta (Alipore)	− 1	0	− 4	− 2	− 3	− 2	− 2	− 1	0	− 7	− 5	− 4	− 3
	Saugor Island	0	+ 1	− 3	− 2	− 3	0	− 1	0	+ 1	− 3	− 4	− 1	− 1
	False Point	+ 6	+ 3	0	− 3	− 2	0	+ 1	+ 3	+ 1	+ 1	− 1	+ 1	+ 1
Gangetic Plain and Chota Nagpur.	Hazaribagh	+ 8	+ 5	− 8	+ 6	+ 5	− 1	− 6	− 2	+ 1	− 3	?	+13	?
	Darbhanga	+ 7	+ 5	0	− 6	− 1	− 1	+ 3	− 1	+ 1	− 2	− 2	0	0
	Allahabad	+ 3	− 1	− 5	− 2	+ 2	− 9	− 8	− 2	+ 3	0	− 2	+ 1	− 2
Upper Sub-Himalayas.	Dehra Dun	− 9	− 1	− 9	+ 4	− 2	−12	− 3	− 1	+ 6	− 3	− 1	+ 5	− 2
	Roorkee	− 7	− 4	−12	0	− 4	− 6	− 3	0	+ 7	+ 1	0	+ 5	− 2
	Meerut	− 5	− 6	− 7	+ 3	− 4	− 6	0	+ 3	+13	+ 1	+ 4	+11	+ 1
	Lahore	− 4	0	− 6	+ 3	+ 4	− 6	− 3	+ 7	+20	+ 9	+ 9	+16	+ 4
	Ludhiana	−10	− 8	−14	− 3	− 8	−12	− 5	+ 7	+15	+ 2	+ 6	+12	− 2
Indus Valley and North-West Rajputana.	Peshawar	− 4	+ 5	− 1	+ 6	+ 8	− 5	− 3	0	+12	+ 1	+ 1	+ 3	+ 2
	Jacobabad	− 7	− 5	− 2	+ 1	+ 2	− 2	− 1	− 1	+ 4	− 2	+ 6	+16	+ 1
	Kurrachee	−24	− 6	− 1	−10	− 2	− 4	− 5	− 5	− 3	− 8	+ 2	− 8	− 6
East Rajputana, Central India and Gujarat.	Jaipur	−12	− 8	−10	+ 1	+ 3	−13	−12	+ 2	+13	− 2	0	+ 8	− 3
	Deesa	−16	− 7	+ 1	+ 2	− 3	− 7	−16	+ 5	+ 8	− 3	0	+ 3	− 3
Deccan	Belgaum	0	− 3	− 5	− 1	− 6	− 4	− 1	+ 1	− 1	−12	−10	0	− 4
	Sholapur	−15	−13	− 8	− 2	− 9	− 4	− 1	− 4	− 5	−21	−13	− 9	− 9
	Poona	− 3	− 2	0	+ 1	− 5	−10	− 1	+ 2	+ 1	− 8	− 5	+ 3	− 2
	Akola	−12	− 4	− 6	+ 7	0	− 6	− 3	+ 2	+ 2	−11	− 8	− 2	− 3
	Buldana	−20	−17	−11	− 3	− 8	−14	− 6	− 1	0	−16	−13	− 4	− 9
	Khandwa	−15	−17	−12	− 4	− 8	−11	− 5	+ 1	+ 6	− 5	− 2	0	− 6
	Nagpur	− 8	−10	−13	− 1	− 9	−11	− 0	+ 2	+ 7	− 9	− 5	+ 7	− 4
	Hyderabad (Deccan)	− 9	− 7	− 7	− 2	− 8	− 6	+ 2	− 7	+ 1	− 9	−10	− 4	− 6
West Coast	Bombay	− 9	− 4	− 3	− 2	− 4	− 6	− 3	− 1	− 2	− 8	− 4	− 3	− 4
	Karwar	+ 2	+ 1	− 3	− 3	− 3	− 1	− 2	− 2	− 3	− 6	− 6	− 2	− 2
South India	Salem	− 3	0	− 2	+ 1	0	− 6	− 1	− 7	+ 2	− 4	− 2	− 4	− 2
	Chitaldroog	− 4	− 2	− 5	+ 2	− 7	− 2	0	+ 1	+ 4	+ 1	− 6	+ 1	− 1
	Bangalore	− 5	− 3	− 8	0	−12	− 2	+ 1	− 4	+ 3	− 2	− 5	0	− 3
	Hassan	− 6	− 5	−11	− 4	−14	− 2	+ 3	+ 4	+ 4	− 2	− 4	− 1	− 3
	Mysore	−10	− 5	− 6	+ 2	− 7	− 2	+ 2	+ 4	+ 6	+ 2	− 1	+ 2	− 1

TABLE XVII.—*Comparison of the monthly mean relative humidity data of 1900 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
South India —*concld.*	Madras	+ 9	+ 5	+ 3	+ 6	+ 4	− 4	0	− 9	+ 2	0	+ 3	+ 4	+ 2
	Bellary	−11	− 8	− 6	+ 1	− 7	−12	−10	− 9	− 7	− 9	−11	− 7	− 8
Baluchistan	Quetta	+ 5	+ 3	− 9	− 1	+ 6	−10	− 9	− 3	?	0	+19	+15	?
Hill Stations, Northern India.	Leh	−24	−30	−11	+10	+ 2	+ 1	+ 5	+ 3	+ 3	+23	− 1	−20	− 3
	Srinagar	+ 4	+ 7	+ 9	+17	+17	+11	+ 8	+ 9	+ 6	+ 6	+ 8	+ 7	+ 9
	Kailang	− 1	− 3	− 4	+11	+ 2	+ 2	+ 2	+ 6	+ 4	+17	+ 2	+ 8	+ 4
	Simla (Ridge)	+ 6	+ 1	−10	+ 4	+ 4	−15	− 4	0	+10	− 2	− 4	+16	+ 1
	Chakrata	+ 6	+ 5	− 8	+ 6	+ 3	− 9	− 4	+ 1	+ 7	− 5	− 2	+10	+ 1
	Ranikhet	− 2	− 1	−15	+ 1	− 2	− 6	− 1	0	+ 4	− 6	+ 2	+ 7	− 2
	Katmandu	+ 1	+ 3	− 4	− 9	− 2	− 1	+ 3	− 1	− 1	+ 2	+ 2	− 3	− 1
	Darjeeling	+ 3	+ 3	+ 6	− 5	− 2	?	0	− 2	− 4	− 4	− 3	?	?
Hill Stations, Central India.	Mount Abu	−12	− 5	− 2	+ 4	− 2	−14	−12	+ 3	+10	− 8	+ 1	+ 4	− 3
	Pachmarhi	− 8	−12	+ 1	+15	+ 9	− 4	0	+ 4	+10	− 8	− 4	+11	+ 1
	Chikalda	−15	−11	− 3	+10	0	−15	− 8	+ 1	+ 6	−13	−10	+ 5	− 4
Hill Station, Southern India.	Wellington	−23	− 2	− 9	0	− 7	− 7	0	− 2	+ 1	− 4	− 3	− 1	− 5
Extra Indian Stations.	Aden	− 6	+ 2	− 3	− 9	− 1	+ 1	− 3	0	− 2	+ 1	+ 2	+ 1	− 1
	Perim	− 4	+ 4	+ 3	+ 3	+ 6	+ 5	+ 8	+14	+10	+19	+25	+12	+ 9
	Zanzibar	+ 1	0	+ 1	0	− 1	0	+ 1	− 4	− 3	− 2	− 4	+ 2	− 1
	Port Victoria (Seychelles).	+ 3	+ 4	0	+ 2	+ 4	+ 2	+ 3	− 1	+ 2	0	0	+ 2	+ 2

TABLE XVIII.—*Geographical summary of the aqueous vapour pressure data of Table II in the monthly weather reviews of 1900.*

Meteorological Area.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalaya	6	−·014	+·031	+·002	−·011	+·013	−·022	+·009	+·032	+·045	+·012	+·029	+·006	+·008
Sikkim Himalaya and Nepal.	1–2	−·008	+·015	+·015	−·035	−·019	+·004	+·010	+·021	−·009	−·002	+·013	−·016	−·001
Punjab Plains	3	−·040	0	−·005	−·038	+·011	−·067	−·021	+·056	+·130	+·011	+·071	+·041	+·012
Gangetic Plain	5	0	+·007	−·011	−·028	−·019	−·036	−·009	+·027	+·024	−·017	+·024	+·036	0
Western Rajputana	4	−·097	−·026	+·025	+·011	−·009	−·002	0	+·051	+·075	−·041	+·056	+·013	−·005
Eastern Rajputana and Central India.	1	−·063	−·022	−·028	0	+·025	−·073	−·050	+·075	+·126	−·021	+·048	+·052	+·006
Nerbudda Valley	1	−·076	−·109	−·082	−·027	−·085	−·046	+·008	+·038	+·055	−·084	+·009	+·083	−·026
Chota Nagpur	1	+·057	+·053	−·036	+·070	+·049	+·020	−·020	−·007	−·006	−·036	?	+·085	?
Lower Bengal	2	+·063	+·082	+·025	+·003	−·030	+·013	+·012	+·021	−·015	−·031	−·024	+·030	+·012
Orissa	1	+·138	+·145	+·083	+·030	+·003	+·042	+·050	+·041	+·013	+·028	−·007	+·080	+·054

TABLE XVIII.—*Geographical summary of the aqueous vapour pressure data of Table II in the monthly weather reviews of 1900*—concld.

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"	"
Central Provinces (South) and Berar.	5	−·034	−·048	−·032	+·087	+·003	−·019	+·012	+·019	+·033	−·121	−·050	+·075	−·006
Konkan . . .	2	−·035	−·020	−·037	−·030	−·028	−·009	+·013	+·017	+·011	−·038	−·018	+·026	−·012
Deccan, Hyderabad and Mysore.	9	−·032	−·030	−·048	+·006	−·065	−·018	+·017	+·006	+·016	−·047	−·048	+·029	−·018
East Coast and Carnatic.	2	+·051	+·055	+·030	+·034	+·047	+·009	+·013	−·004	+·036	+·004	+·029	+·051	+·030
Arakan and Pegu .	3	+·046	+·036	+·014	+·037	−·005	+·033	+·008	+·029	+·008	+·011	−·023	−·005	+·016
Bay Islands . .	1−2	+·062	−·019	+·022	+·026	−·007	+·029	+·033	+·034	+·010	+·008	−·031	−·005	+·014
Extra-Tropical India .	25—26	−·016	+·008	+·002	−·014	−·005	−·022	−·001	+·036	+·047	−·012	+·029	+·029	+·007
Tropical India . .	23—24	−·008	−·014	−·023	+·028	−·024	−·007	+·015	+·013	+·020	−·044	−·033	+·033	−·004
Whole India . .	48—50	−·012	−·003	−·010	+·008	−·014	−·015	+·007	+·025	+·034	−·027	−·001	+·031	+·002

TABLE XIIX.—*Geographical summary of the humidity data of Table II in the monthly weather reviews of 1900.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalaya	6	− 2	− 4	− 7	+8	+4	− 3	+ 1	+3	+ 6	+ 4	+1	+ 5	+2
Sikkim Himalaya and Nepal.	1— 2	+ 2	+ 3	+ 1	−7	−2	− 1	+ 2	−2	− 3	− 1	−1	− 3	−1
Punjab Plains . .	3	− 6	− 1	− 7	+2	+1	− 8	− 4	+5	+16	+ 4	+5	+10	+1
Gangetic Plain .	5	− 2	− 1	− 7	0	−2	− 7	− 2	0	+ 6	− 1	0	+ 4	−1
Western Rajputana .	4	−15	− 6	− 1	−1	−1	− 7	− 9	+1	+ 5	− 5	+2	+ 4	−3
Eastern Rajputana and Central India.	1	−12	− 8	−10	+1	+3	−13	−12	+2	+13	− 2	0	+ 8	−3
Nerbudda Valley .	1	−15	−17	−12	−4	−8	−11	− 5	+1	+ 6	− 5	−2	0	−6
Chota Nagpur . .	1	+ 8	+ 5	− 8	+6	+5	− 1	− 6	−2	+ 1	− 3	?	+13	+2?
Lower Bengal . .	2	− 1	+ 1	− 4	−2	−3	− 1	− 2	−1	+ 1	− 5	−5	− 3	−2
Orissa . . .	1	+ 6	+ 3	0	−3	−2	0	+ 1	+3	+ 1	+ 1	−1	+ 1	+1
Central Provinces South and Berar.	5	−13	−11	− 6	+6	−2	−10	− 3	+2	+ 5	−11	−8	+ 3	−4
Konkan . . .	2	− 4	− 2	− 3	−3	−4	− 4	− 3	−2	− 3	− 7	−5	− 3	−4
Deccan, Hyderabad and Mysore.	9	− 7	− 5	− 6	0	−8	− 5	− 1	−1	+ 1	− 7	−7	− 2	−4
East Coast and Carnatic.	2	+ 3	+ 3	0	+4	+2	− 5	− 1	−8	+ 2	− 2	+1	0	0
Arakan and Pegu .	3	+ 1	0	− 1	0	0	0	− 1	−1	− 2	− 2	−4	− 4	−1
Bay Islands . .	1—2	+ 2	+ 3	− 1	−3	−7	− 3	− 1	−2	− 2	− 2	−5	− 5	−2
Extra-Tropical India.	25—26	− 4	− 2	− 5	+1	0	− 5	− 3	+1	+ 6	0	+1	+ 4	−1
Tropical India . .	23—24	− 6	− 4	− 4	+1	−4	− 5	− 1	−1	+ 1	− 6	−6	− 1	−3
Whole India . .	48—50	− 5	− 1	− 5	+1	−2	− 5	− 2	0	+ 3	− 3	−2	+ 2	−2

TABLE XX.—*Variations of the mean monthly aqueous vapour pressure from the normal in nine meteorological provinces of India in 1900.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands	+·045	+·035	+·013	+·028	+·016	+·028	+·019	+·028	+·013	+·019	−·018	−·006	+·018
Bengal and Orissa . .	+·081	+·092	+·041	+·022	−·026	+·024	+·019	+·029	−·006	−·015	−·024	+·034	+·023
Gangetic Plain and Chota Nagpur.	+·046	+·036	−·007	−·007	+·014	−·008	−·016	+·010	−·009	−·015	+·020	+·049	+·009
Upper Sub-Himalayas . .	−·034	−·011	−·026	−·028	−·026	−·056	−·016	+·046	+·073	−·010	+·049	+·044	0
Indus Valley and North-West Rajputana.	−·078	+·002	+·048	−·002	−·053	+·015	+·028	+·002	+·109	−·017	+·072	+·009	+·011
East Rajputana, Central India and Gujarat.	−·092	−·039	−·024	0	−·033	−·062	−·058	+·070	+·107	−·036	+·035	+·035	−·008
Deccan	−·040	−·057	−·066	0	−·073	−·038	+·015	+·013	+·021	−·114	−·060	+·038	−·030
West Coast	−·035	−·020	−·037	−·030	−·028	−·009	+·013	+·017	+·011	−·038	−·018	+·026	−·012
South India	−·006	+·006	−·025	+·027	−·025	−·008	+·011	+·005	+·027	0	−·010	+·039	+·003

TABLE XXI.—*Variations of the mean monthly relative humidity from the normal in nine meteorological provinces of India in 1900.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands	+ 1	0	− 1	−3	+1	− 1	− 1	−1	− 2	− 2	−3	− 5	−1
Bengal and Orissa . .	+ 2	+1	− 2	−1	−3	− 1	− 1	0	0	− 3	−4	− 2	−1
Gangetic Plain and Chota Nagpur.	+ 6	+3	− 4	−1	+2	− 4	− 4	−2	+ 2	− 2	−2	+ 5	0
Upper Sub-Himalayas . .	− 7	−4	−10	+1	−3	− 8	− 3	+3	+12	+ 2	+4	+10	0
Indus Valley and North-West Rajputana.	−12	−2	− 1	−1	+3	− 4	− 3	−2	+ 4	− 3	+3	+ 4	−1
East Rajputana, Central India and Gujarat.	−14	−8	− 5	+2	0	−10	−14	+4	+11	− 3	0	+ 6	−3
Deccan	−10	−9	− 8	−1	−7	− 8	− 2	−1	+ 1	−11	−8	− 1	−5
West Coast	− 4	−2	− 3	−3	−4	− 4	− 3	−2	− 3	− 7	−5	− 3	−4
South India	− 4	−3	− 5	+1	−6	− 4	− 1	−3	+ 2	− 2	−4	− 1	−3

I.—The cold weather period.—Weather was unusually fine and dry in the first-half of January. Two storms of moderate intensity passed across Northern India in the second-half of the month and gave light to moderate rain. A large number of cold weather depressions affected Upper India in February, but they were feeble and gave little rain. The amount of aqueous vapour present in the air was hence much less than usual over the greater part of India. As this condition was accompanied by higher temperature than usual, the relative humidity was also largely below the normal. It was in general moderate to large defect over the whole area to the west of the 80th meridian.

The following gives comparative data for that area :—

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period January and February.	January.	February.	Period January and February.
	"	"	"			
Punjab	—·040	0	—·020	— 6	— 1	— 4
Sind	—·102	—·014	—·058	—16	— 6	—11
Rajputana	—·092	—·039	—·066	—14	— 8	—11
North-Western Provinces.	—·012	—·001	—·007	— 5	— 3	— 4
Central Provinces	—·027	—·080	—·054	—12	—14	—13
Berar	—·059	—·044	—·052	—16	—11	—14
Bombay Coast	—·035	—·020	—·028	— 4	— 2	— 3
Bombay Deccan	—·045	—·062	—·054	— 6	— 6	— 6
Madras Deccan	—·034	—·033	—·034	—10	— 8	— 9
Mysore	—·022	—·004	—·013	— 6	— 4	— 5

The relative humidity was most largely below the normal, on the mean of the period, in the areas represented by the stations for which comparative data are given below :—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period January and February.	January.	February.	Period January and February.
	"	"	"			
Buldana	—·113	—·129	—·121	—20	—17	—19
Khandwa	—·076	—·109	—·093	—15	—17	—16
Chikalda	—·061	—·058	—·060	—15	—11	—13
Pachmarhi	—·014	—·044	—·029	— 8	—12	—10
Sholapur	—·090	—·095	—·093	—15	—13	—14
Kurrachee	—·153	—·027	—·090	—24	— 6	—15
Jaipur	—·063	—·022	—·043	—12	— 8	—10
Deesa	—·120	—·056	—·088	—16	— 7	—12
Wellington	—·018	+·021	+·002	—23	— 2	—13

As the mean aqueous vapour pressure in the dry area including the Central Provinces, Berar, Khandesh, Central India, averages about ·300", the data indicate that in that area the amount of aqueous vapour present in the lowest air stratum was about 30 per cent. less than usual at several of these stations.

A reference to the annual summary for the previous year, page 733, will show that similar conditions of high temperature and great dryness of the air prevailed in that area in the cold weather of 1899.

The air was somewhat damper in North-Eastern India, Burma and the Madras coast districts.

The following gives data :—

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period January and February.	January.	February.	Period January and February.
	"	"	"			
Burma Coast	+·040	+·025	+·033	+1	—1	0
Bengal	+·061	+·074	+·068	0	+1	+1
Orissa	+·138	+·145	+·142	+6	+3	+5
Bihar	+·045	+·038	+·042	+7	+5	+6
Chota Nagpur	+·057	+·053	+·055	+8	+5	+7
Madras Coast	+·097	+·078	+·088	+9	+5	+7

The variations of the humidity at the hill stations in Northern India and in the Persian area were generally small. There was on the whole a slight excess.

There were several periods of abnormal dryness of the air during the period, *viz.*, the 2nd to the 10th of January, the 16th to the 20th of January and the 4th to the 18th of February.

The lowest reported humidities (of 9 and less) excluding those at Leh where zero humidities were recorded on 16 days during January and on 14 days during February are given below :—

Station.	Date.	Hour.	Lowest humidity recorded during January and February.
			%
Kodaikanal	2nd January.	8 A.M.	5
Udaipur	17th ,,	4 P.M.	5
Belgaum	3rd and 4th ,,	4 P.M.	5
Kodaikanal	5th and 6th ,,	8 A.M.	6
Deesa	16th ,,	4 P.M.	6
Poona	2nd ,,	4 P.M.	7
Akola	4th ,,	4 P.M.	7
Jamnagar	18th ,,	10 A.M.	7
Kodaikanal	5th ,,	10 A.M.	7
Mount Abu	2nd ,,	10 A.M.	8
Kodaikanal	2nd ,,	10 A.M.	8
Mysore	5th ,,	4 P.M.	9
Kodaikanal	3rd ,,	10 A.M.	9
Kodaikanal	16th ,,	10 A.M.	9
Akola	3rd ,,	8 A.M.	9
Akola	6th ,,	4 P.M.	9
Akola	8th ,,	4 P.M.	9

Station.	Date.	Hour.	Lowest humidity recorded during January and February.
			%
Sholapur	1st and 8th January	4 P.M.	9
Muktesar	4th ,,	10 A.M.	9
Buldana	4th February	4 P.M.	8
	5th ,,	10 A.M.	9
	5th ,,	4 P.M.	6
	6th ,,	4 P.M.	8
Khandwa	6th ,,	10 A.M.	8
Buldana	7th ,,	4 P.M.	9
	8th ,,	4 P.M.	8
Khandwa	8th ,,	4 P.M.	9
Buldana	9th ,,	4 P.M.	8
	10th ,,	4 P.M.	9
Poona	10th ,,	4 P.M.	7
Sholapur	10th ,,	4 P.M.	8
Buldana	12th ,,	4 P.M.	5
Poona	12th ,,	4 P.M.	9
	13th ,,	4 P.M.	8
Buldana	13th ,,	4 P.M.	5
	14th ,,	10 A.M.	7
	14th ,,	4 P.M.	4
Poona	14th ,,	4 P.M.	9
Buldana	15th ,,	4 P.M.	8
	16th ,,	4 P.M.	6
Khandwa	16th ,,	From minima.	8
Sholapur	16th ,,	4 P.M.	9
Belgaum	17th ,,	10 A.M.	9
Nagpur	18th ,,	4 P.M.	9
Deesa	6th ,,	10 A.M.	6
	6th ,,	4 P.M.	8
Jamnagar	6th ,,	4 P.M.	5
	7th ,,	10 A.M.	4
	7th ,,	4 P.M.	7
Deesa	7th ,,	4 P.M.	7
	15th ,,	4 P.M.	9
	16th ,,	4 P.M.	8
	18th ,,	4 P.M.	7

II.—The hot weather period.—March was drier than usual over practically the whole of India. A large change occurred in the beginning of April which reversed the humidity conditions over the greater part of India. Weather was more disturbed than usual with much rain, and the precipitation was largely in excess over the Indian area except Burma. The air was hence on the mean of the month slightly damper than usual over the greater part of the country.

Weather was also slightly more disturbed than usual in the first fortnight of May, but was very hot and dry in the latter half, more especially in North-Western India.

The driest periods in the hot weather of 1900 were the 7th to the 17th March, the 14th to the 20th April, and the 25th April to the 3rd of May. Humidities of 3 and less were recorded at several stations during these periods. The following gives the most noteworthy :—

Station.	Date.	Hour.	Lowest humidity recorded during March April and May.
			%
Chakrata	8th March	10 A.M.	0
Leh	11th ,,	4 P.M.	0
Jamnagar	12th ,,	,,	3
Buldana	14th ,,	,,	0
Deesa	,, ,,	,,	2
Roorkee	17th April	,,	3
Deesa	27th ,,	,,	2
Jamnagar	,, ,,	10 A.M.	3
Akola	29th ,,	,,	2
Deesa	1st May	4 P.M.	2
Akola	,, ,,	,,	3
Jhansi	,, ,,	8 A.M.	3
Buldana	,, ,,	10 A.M.	3
Buldana	2nd ,,	4 P.M.	3

The mean humidity conditions of this period differed less from the normal than during the other periods of the year. The following gives a summary of the chief features :—

(1) Weather was very slightly drier than usual in Upper India on the mean of the period, as shown below :—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
	"	"	"	"				
Baluchistan (Quetta)	—·009	—·015	+·038	+·005	—9	—1	+6	—1
Punjab	—·005	—·038	+·011	—·011	—7	+2	+1	—1
Sind	+·051	+·007	+·042	+·033	—2	—5	0	—2

(2) The variations were generally small at the hill stations in Upper India on the mean of the period. This is shown below :—

Station.	Variation of absolute humidity from normal in				Variation of relative humidity from normal in			
	March.	April.	May.	Period March to May.	March.	April.	May.	Period March to May.
	"	"	"	"				
Leh	—·011	+·015	+·014	+·006	—11	+10	+ 2	0
Srinagar	+·093	+·027	+·081	+·067	+ 9	+17	+17	+14
Simla	—·023	—·034	—·005	—·021	—10	+ 4	+ 4	— 1
Chakrata	—·013	—·025	+·002	—·012	— 8	+ 6	+ 3	0
Ranikhet	—·038	—·041	—·022	—·034	—15	+ 1	— 2	— 5

(3) The variations of the humidity conditions from the normal were small in Northern India, Burma and the Bay Islands. The following gives data :—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	March.	April.	May.	Period March to May.	March.	April.	May.	Period March to May.
	"	"	"	"				
Bihar	+·032	—·052	—·035	—·018	0	—6	—1	—2
Chota Nagpur	—·036	+·070	+·049	+·028	—8	+6	+5	+1
Bengal	+·027	+·019	—·035	+·004	—2	0	—4	—2
Orissa	+·083	+·030	+·003	+·039	0	—3	—2	—2
Burma	+·006	+·031	+·015	+·017	—2	—2	+3	0
Port Blair	+·027	+·031	+·018	+·025	—1	—1	—1	—1

(4) The air was much drier in Central India and the interior of the Peninsula in March and May and very slightly damper in April. The variations were small in Rajputana and the North-Western Provinces, as is shown below :—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	March.	April.	May.	Period March to May.	March.	April.	May.	Period March to May.
	"	"	"	"				
Rajputana	—·024	0	—·033	—·019	— 5	+2	0	—1
North-Western Provinces.	—·021	—·022	—·015	—·020	— 8	+1	— 2	—3
Berar	—·073	+·045	—·032	—·020	— 9	+2	— 4	—4
Central Provinces	—·091	—·010	—·103	—·068	—13	—3	— 9	—8
Bombay Deccan	—·058	—·027	—·075	—·048	— 4	—1	— 7	—4
Madras Deccan	—·036	+·011	—·083	—·036	— 7	—1	— 8	—5
Bombay Coast	—·037	—·030	—·028	—·032	— 3	—3	— 4	—3
Madras Coast	+·056	+·057	+·043	+·052	+ 3	+6	+ 4	+4
Mysore	—·044	+·028	—·048	—·021	— 8	0	—10	—6

III.—The south-west monsoon period.—The Bombay monsoon current was weak in June and July. It was unusually late in being established on the Bombay Coast, and extended very slowly into the interior of North-Western India where it was not fully established until the end of July. The Bombay monsoon current was strong during the remainder of the period and the rainfall was largely above the normal over the greater part of the region which usually obtains rain from it, more especially the Punjab and Rajputana. The Bay current was of normal strength in June and July, and above its normal strength in August and September. In June and July it was determined to a greater extent than usual to North-Eastern India and Burma and in August and September to the Gangetic Plain.

The humidity conditions of the period were determined by the variations in the strength and rain-giving capacity of the monsoon currents.

The following is a brief statement of the chief features of the mean humidity conditions of the first-half of the period :—

(1) The variations of the humidity conditions were irregular but generally small in amount throughout the period in Burma and North-Eastern India, as shown below :—

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	June.	July.	Period June and July.	June.	July.	Period June and July.
Burma	+"028	+"013	+"021	0	— 1	— 1
Bengal	+·024	+·008	+·016	— 1	— 1	— 1
Orissa	+·042	+·050	+·046	0	+ 1	+ 1
Chota Nagpur	+·020	—·020	0	— 1	— 6	— 4
Bihar	—·008	+·014	+·003	— 1	+ 3	+ 1

(2) Over nearly the whole of the remainder of India including the Punjab, the North-Western Provinces, Rajputana, Central India, Berar, the Central Provinces, North Bombay, Konkan and the Deccan, the air was in both months abnormally dry. The variations were somewhat larger in June than in July. The amount of aqueous vapour present in the air was much less than usual. This in combination with the increased temperature due to decreased cloud and rainfall reduced the relative humidity very largely below the normal over the interior districts. The following gives comparative aqueous vapour pressure and relative humidity data for the period in this area of abnormal dryness —

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	June.	July.	Period June and July.	June.	July.	Period June and July.
Baluchistan (Quetta)	—"109	—"057	—"083	—10	— 9	—10
Punjab	—·067	—·021	—·044	— 8	— 4	— 6
Rajputana	—·062	—·058	—·060	—10	—14	—12

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	June.	July.	Period June and July.	June.	July.	Period June and July.
	"	"	"			
Sind	+·050	+·041	+·046	— 3	— 3	— 3
North-Western Provinces.	—·043	—·015	—·029	— 8	— 4	— 6
Berar	—·050	—·002	—·026	—10	— 5	— 8
Central Provinces	—·056	+·012	—·022	—11	— 3	— 7
Konkan	—·009	+·012	+·002	— 4	— 3	— 4
Bombay Deccan	—·019	+·024	+·003	— 6	— 1	— 4
Madras Deccan	—·070	—·030	—·050	— 9	— 4	— 7

The variations of the humidity conditions were small in the coast districts but large over the interior, more especially in Berar, the Central Provinces, Central India, Baluchistan, the Panjab, Rajputana and the Madras Deccan.

The following gives comparative data for representative stations in these areas:—

Station.	Variation of absolute humidity from normal in			Variation of relative humidity from normal in		
	June.	July.	Period June and July.	June.	July.	Period June and July.
	"	"	"			
Khandwa	—·046	+·008	—·019	—11	— 5	— 8
Nagpur	—·066	+·016	—·025	—11	0	— 6
Deesa	—·050	—·066	—·058	— 7	—16	—12
Jaipur	—·073	—·050	—·062	—13	—12	—13
Ludhiana	—·080	—·042	—·061	—12	— 5	— 9
Lahore	—·067	—·022	—·045	— 6	— 3	— 5
Allahabad	—·035	—·043	—·039	— 9	— 8	— 9
Buldana	—·077	—·018	—·048	—14	— 6	—10
Bellary	—·107	—·087	—·097	—12	—10	—11
Quetta	—·109	—·057	—·083	—10	— 9	—10
Mount Abu	—·057	—·017	—·037	—14	—12	—13
Chikalda	—·036	—·001	—·019	—15	— 8	—12

The more important abnormal features of the humidity conditions of the months of August and September were:—

(1) Humidity was in slight excess in August and in large excess in September in the interior areas dependent for their rainfall on the Bombay monsoon, as is shown by the following data:—

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	August.	September.	Period August and September.	August.	September.	Period August and September.
	"	"	"			
Punjab	+·056	+·130	+·093	+ 5	+16	+11
Rajputana	+·070	+·107	+·089	+ 4	+11	+ 8
North-Western Provinces and Oudh.	+·024	+·037	+·031	0	+ 7	+ 4
Central Provinces	+·029	+·036	+·043	+ 2	+ 7	+ 5
Berar	+·016	+·015	+·016	+ 1	+ 1	+ 1

The excess was most pronounced in the South Punjab as represented by the stations of Lahore and Ludhiana:—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	August.	September.	Period August and September.	August.	September.	Period August and September.
	"	"	"			
Lahore	+·070	+·134	+·102	+ 7	+20	+14
Ludhiana	+·065	+·090	+·078	+ 7	+15	+11

(2) The relative humidity was above the normal or the air was more humid than usual at the hill stations in Upper India but to a less extent than at the neighbouring plain stations.

The following gives data for four stations.

Station.	Variation of mean relative humity from normal in		
	August.	September.	Period August and September.
Leh	+3	+3	+3
Simla	0	+10	+5
Ranikhet	0	+4	+2
Mount Abu	+3	+10	+7

(3) The air was very slightly less humid than usual in North-Eastern India, Burma and the West Coast districts. The variations were very small, and the conditions were hence practically normal in these areas.

IV.—The retreating south-west monsoon period. The humidity conditions of this period were almost solely determined by the unusually rapid retreat of the monsoon currents from the north and centre of the Peninsula and the Bay of Bengal and by the scanty rainfall in the months of October and November. The regular monsoon rains ceased in North-Eastern India in the second week of October and in Burma in the fourth week of that month. Moderate to heavy rain fell in North-Eastern India in October due to a cyclonic storm in the second week of the

month and moderate rain fell in Southern India in the last week of the month due to the only cyclonic storm which crossed the Coromandal Coast during the period. The months of November and December were unusually fine and dry in the Peninsula and only occasional showers fell in the South Coromandal Coast districts.

The interior of the Peninsula, more especially the Deccan, received very scanty rain during the period. Weather was more disturbed in Upper India and the Persian area, and a succession of feeble depressions passed eastwards and gave light rain and much cloud.

The chief feature of the humidity conditions of the period was the dryness of the air over the central area including the Central Provinces, Berar, the Bombay Deccan and Hyderabad throughout the whole period. This feature was most pronounced at the end of the rains in the month of October. The following gives data :—

Area.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Berar . . .	—·152	—·071	+·043	—·062	—14	—11	—3	—9
Central Provinces .	—·094	—·021	+·102	—·001	—7	—4	+4	—2
Bombay Deccan .	—·114	—·082	+·024	—·057	—14	—9	—2	—8
Hyderabad Deccan .	—·080	—·057	+·015	—·041	—9	—10	—4	—8

The deficiency was most marked in the centre and south of the area as defined by the stations of Belgaum, Sholapur, Buldana, Akola and Hyderabad. Comparative data are given below for the stations at which the deficiency was greatest :—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Sholapur . . .	—·170	—·107	+·034	—·081	—21	—13	—9	—14
Buldana . . .	—·156	—·095	+·015	—·079	—16	—13	—4	—11
Hyderabad (Deccan) .	—·080	—·057	+·015	—·041	—9	—10	—4	—8
Akola . . .	—·148	—·056	+·067	—·046	—11	—8	—2	—7
Belgaum . . .	—·075	—·068	+·011	—·044	—12	—10	0	—7

As already stated, the excessive dryness in this central area was similar to the conditions which obtained during the corresponding periods of 1896 and 1899. The following gives comparative data for these stations :—

Station.	Mean data of retreating south-west monsoon period, October to December					
	1900.		1899.		1896.	
	Variation from normal.		Variation from normal.		Variation from normal.	
	Absolute humidity.	Relative humidity.	Absolute humidity.	Relative humidity.	Absolute humidity.	Relative humidity.
	"		"		"	
Sholapur . . .	—·081	—14	—·185	—25	?	?
Buldana . . .	—·079	—11	—·213	—31	—·076	—14
Akola . . .	—·046	—7	—·163	—27	—·040	—13
Hyderabad (Deccan)	—·041	—8	—·131	—20	—·016	—7
Belgaum . . .	—·044	—7	—·088	—11	—·013	—3

The air was damper than usual throughout the period in Upper India, the variations in the absolute and relative humidities increasing on the whole with the advance of the season. The following gives comparative data for stations in that area :—

Station.	Variation of absolute humidity from normal in				Variation of relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Peshawar . . .	+·007	+·048	+·022	+·026	+1	+1	+3	+2
Lahore . . .	+·045	+·099	+·045	+·063	+9	+9	+16	+11
Ludhiana . . .	—·019	+·065	+·055	+·034	+2	+6	+12	+7
Jacobabad . . .	—·015	+·102	+·068	+·052	—2	+6	+16	+7

The variations were small and somewhat irregular at the hill stations in Upper India. The air was much damper in Baluchistan and probably the Persian area. The following gives data for five stations :—

Station.	Variation of absolute humidity from normal in				Variation of relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Leh	+·069	+·023	—·028	+·021	+23	—1	—20	+1
Simla	—·028	—·006	+·018	—·005	—2	—4	+16	+3
Quetta . . .	—·006	+·088	+·028	+·037	0	+19	+15	+11
Bushire . . .	—·018	—·058	+·002	—·025	—1	—3	+4	0
Baghdad . . .	+·031	0	+·014	+·015	+3	+9	+5	+6

The air was very slightly drier than usual on the mean of the period in North-Eastern India, as shown by comparative data for the following stations :—

Station.	Variation of absolute humidity from normal in				Variation of relative humidity from normal in			
	October.	November.	December.	Period October to December.	October.	November.	December.	Period October to December.
	"	"	"	"				
Rangoon	+·021	−·042	−·025	−·015	0	−2	−4	−2
Saugor Island	−·027	−·025	+·027	−·008	−3	−4	−1	−3
Calcutta	−·035	−·023	+·032	−·009	−7	−5	−4	−5

The year.—The mean variations for the whole year are given in the final columns of Tables XXIV and XXV.

The following are the more important features of the mean humidity conditions of the year 1900 in India :—

1st.—The year was very slightly drier than usual. The mean humidity of the whole of India for the year was 2 below the normal. The deficiency in 1900 was a result of the high temperature of the year, as the amount of aqueous vapour on the mean of the year was only ·002″ above the normal or practically normal.

2nd.—The variations of the mean humidity conditions were small to moderate in amount in Burma, North-Eastern India, the North-Western Provinces, the Punjab, Baluchistan and the Himalayas. The following gives data in illustration :—

Area.	Mean variation from normal in 1900 of	
	Mean absolute humidity.	Mean relative humidity.
	"	
Burma	+·017	−1
Bengal	+·013	−2
Orissa	+·054	+1
Bihar	+·004	0
Chota Nagpur	+·021?	+2?
North-Western Provinces and Oudh	−·001	−1
Punjab	+·012	+1
Baluchistan	−·004	+1
North-West Himalayas	+·009	−1
Sikkim and Nepal Himalayas	−·001	−1

3rd.—On the mean of the year the aqueous vapour pressure and humidity were in moderate defect over the remainder of India, including the greater part of the area wholly dependent on the Bombay current for its south-west monsoon rainfall, *viz*, Rajputana, Central India, Berar, the Konkan, the Central Provinces and the Deccan.

The following gives variation data for these areas :—

Area.	Mean variation from normal in 1900 of	
	Mean absolute humidity.	Mean relative humidity.
	"	
Western Rajputana	−·005	−3
Eastern Rajputana and Central India	+·006	−3
Nerbudda Valley	−·026	−6
Central Provinces South and Berar	−·006	−4
Konkan	−·012	−4
Deccan, Hyderabad and Mysore	−·018	−4

The deficiency was most marked in the area represented by the stations for which data are given below :—

Station.	Mean variation from normal in 1900 of	
	Absolute humidity.	Relative humidity.
	"	
Buldana	−·066	−9
Khandwa	−·026	−6
Sholapur	−·051	−9
Hyderabad	−·022	−6
Bellary	−·056	−6
Kurrachee	−·010	−6

The following gives the mean annual variations of the mean aqueous vapour pressure and humidity of the whole of India from the normal for each year from 1875 to 1900 :—

Year.	Annual variation of pressure of vapour.	Annual variation of relative humidity.
	"	
1875	−·004	+1
1876	−·017	−1
1877	+·011	+1
1878	+·020	0
1879	−·014	−1
1880	−·004	0
1881	+·001	0
1882	−·008	0
1883	−·013	−1
1884	−·013	0
1885	+·001	0
1886	+·008	+1
1887	−·012	−1
1888	−·005	−1
1889	+·003	−1
1890	−·003	−1
1891	−·007	0
1892	−·002	−1
1893	+·007	+3
1894	+·013	+2
1895	+·003	0
1896	−·010	−3
1897	+·005	−1
1898	−·008	−2
1899	−·026	−5
1900	+·002	−2

Cloud.

Normal values of the mean monthly and annual amount of cloud at second class stations, obtained from the whole of the available data up to the end of the year 1896, were given in Table XXI of the Annual Summary of 1896. These means are the arithmetical averages of the cloud amounts as registered at 10 A.M. and 4 P.M., and hence represent the mean amount during the day period rather than of the whole 24 hours. Corrections to reduce these means to true daily means have only been obtained in the case of a few stations.

Variation data of this element of meteorological observation for the year 1900, are given in Tables XXII, XXIII and XXIV. Table XXV gives the mean variation data for the sixteen meteorological areas adopted in the geographical summaries of meteorological data in the Annual Reports previous to 1891, and Table XXVI gives similar data for nine meteorological provinces of India.

TABLE XXII.—*Comparison of the mean cloud proportion in each month of 1900 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands.	Port Blair	—0·1	+0·2	+1·3	+0·3	+0·3	+0·5	+0·4	+0·4	+0·7	+0·9	−0·4	+0·4	+0·4
	Rangoon	−1·2	−0·9	0	−1·5	+1·0	+0·5	−0·7	0	−0·8	+0·2	−1·4	+0·5	−0·4
	Diamond Island	−0·9	−0·7	−0·2	−0·8	−0·2	+0·8	+0·7	+0·5	+0·2	+0·1	−1·5	−1·2	−0·3
	Cocos Island	−0·1	−0·6	+0·3	−0·8	−0·9	+1·1	−0·5	−0·1	+0·8	+1·2	−1·8	+0·4	0
	Akyab	+1·6	+0·4	+1·8	+1·1	−0·6	+0·7	0	+0·3	−0·8	−0·7	−1·0	+0·8	+0·3
Bengal and Orissa.	Chittagong	+1·4	+1·2	+0·5	+0·7	−1·0	+1·3	+0·9	+0·7	+0·3	−0·2	−1·0	−0·1	+0·4
	Calcutta (Alipore).	+1·8	+1·7	−0·7	+1·2	−0·3	0	0	+0·5	+0·9	+0·3	−0·9	−0·2	+0·4
	Saugor Island	+1·9	+2·5	0	+0·8	−1·4	−0·8	0	+0·6	+0·4	+0·2	−1·2	−0·6	+0·2
	False Point	+2·8	+2·8	+0·9	+1·6	−0·3	+0·1	+0·7	+0·8	+1·1	+0·8	−1·0	−0·8	+0·8
Gangetic Plain and Chota Nagpur.	Hazaribagh	+5·2	+0·9	−1·3	+2·6	+0·9	+1·3	+0·7	+1·0	+1·7	0	−1·0	+1·2	+1·1
	Darbhanga	+2·3	−0·7	−1·1	0	−0·2	−0·2	+0·5	−0·5	+0·8	−0·7	−0·4	+0·1	0
	Allahabad	+4·4	+0·4	−0·7	+0·8	+0·5	−1·4	+0·1	+0·4	+1·9	+0·2	+0·2	+1·9	+0·2
Upper Sub-Himalayas.	Dehra Dun	+1·8	+0·7	+0·2	+1·2	+0·6	−1·6	−1·0	+0·5	+2·6	−0·1	+0·2	+2·2	+0·6
	Roorkee	+1·8	−0·2	−0·2	+0·3	+0·2	−1·3	+0·4	+0·3	+2·1	−0·4	−0·2	+2·2	+0·5
	Meerut	+1·4	+0·5	−0·7	+1·8	+2·9	+4·2	+1·4	+0·5	+2·3	−0·2	−0·1	+2·9	+1·4
	Lahore	+0·4	−0·3	+0·5	+1·5	−0·1	−2·7	−2·0	+0·2	+2·5	+0·1	+0·8	+2·5	+0·3
	Ludhiana	+0·1	−0·5	+0·3	+1·0	+1·0	−2·3	−1·3	+0·1	+2·6	0	+0·4	+1·5	+0·2
Indus Valley and North-West Rajputana.	Peshawar	−0·3	+0·7	+0·7	+0·8	+1·9	−0·1	−0·4	−0·8	+1·1	+1·0	+2·1	+2·1	+0·7
	Jacobabad	+1·2	−0·4	−1·0	−0·8	+0·1	−0·7	−1·7	−0·2	+0·2	+0·6	+0·8	+2·5	+0·1
	Kurrachee	0	−0·5	−1·3	−0·4	−1·0	−2·4	−3·1	−1·1	−0·4	−0·6	−0·3	+1·0	−0·8
East Rajputana, Central India and Gujarat.	Jaipur	+1·3	+0·8	−0·4	−0·3	0	−2·8	−2·4	+0·5	+3·0	−0·7	+0·6	+2·2	+0·2
	Deesa	+0·5	−0·6	−1·1	−0·9	−0·8	−3·4	−1·9	+0·8	+0·9	−1·6	0	+0·3	−0·7

TABLE XXII.—*Comparison of the mean cloud proportion in each month of 1900 with the averages of past years*—concld.

Meteorological Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year
Deccan.	Belgaum	+1·0	−1·1	−0·6	+0·3	−1·2	−0·4	−0·1	−0·1	+0·2	−1·5	−0·3	−0·2	−0·4
	Sholapur	+1·3	−0·7	−0·4	+0·6	−0·7	−0·2	+0·5	+0·2	+0·3	−2·2	−0·9	−1·2	−0·3
	Poona	+1·2	+0·1	−0·3	−0·5	−1·8	−1·7	−0·3	−0·3	−0·1	−1·8	−0·4	−0·5	−0·5
	Akola	+3·3	+0·3	−0·7	+0·9	−1·3	−1·6	−0·4	−0·7	+0·3	−1·6	−0·5	+1·4	−0·1
	Buldana	+1·2	+0·1	−0·7	−0·7	−1·3	−1·0	+1·1	+1·3	+1·8	−1·1	−1·2	−0·3	−0·1
	Khandwa	+1·7	+0·2	+0·4	+0·4	−0·8	−1·5	−0·3	+0·3	+1·6	−1·2	−0·2	+0·8	+0·1
	Nagpur	+2·5	+1·0	0	+1·7	+0·6	−0·3	0	+0·1	+0·9	−0·6	−0·8	+1·6	+0·6
	Hyderabad (Deccan).	+1·4	+0·4	+0·3	+1·3	+1·0	+0·5	+0·5	+0·7	+1·1	−0·6	−0·7	−0·7	+0·4
West Coast.	Bombay	+0·1	+0·3	−0·2	−0·4	−2·1	−1·0	−0·3	+0·3	−0·8	−1·8	−0·7	+0·5	−0·5
	Karwar	+0·7	+0·1	−0·5	−0·8	−1·6	+0·1	+1·1	+1·3	−0·2	−1·8	−0·7	−0·6	−0·2
South India.	Salem	0	−0·7	−1·1	+1·5	0	+0·3	+1·0	+0·4	+0·9	+0·2	+0·3	+0·3	+0·3
	Chitaldroog	+0·9	+0·2	−0·7	+1·0	−1·0	+0·1	+0·1	0	+0·5	−0·2	−0·6	−0·4	0
	Bangalore	−0·6	−1·0	−1·8	+0·5	−0·7	−0·7	+1·7	+1·9	+1·8	+0·2	−0·6	−0·5	−0·1
	Hassan	+0·3	0	−1·0	+0·2	+0·2	+0·1	+0·2	+0·2	+0·7	+0·1	−1·1	+0·2	0
	Mysore	+0·7	+1·6	+0·3	+1·8	+1·2	+1·6	+0·9	+0·8	+1·4	+1·6	−0·2	+1·9	+1·1
	Madras	+0·5	−0·6	−0·7	+1·6	−0·7	+0·2	+1·1	−0·3	+0·7	−0·2	+0·2	−0·2	+0·1
	Bellary	+2·3	+1·5	+1·1	+2·8	+0·4	+1·0	+1·0	+1·2	+1·1	+1·1	+1·3	+0·7	+1·3
Baluchistan.	Quetta	+0·3	+0·7	−0·7	+1·0	+2·6	−0·5	+0·6	+0·8	−0·1	+0·8	+2·2	+2·5	+0·9
Hill Stations, Northern India.	Leh	+0·2	−0·4	−0·7	+0·6	−0·3	−0·3	−0·1	−0·7	−0·5	+0·6	+0·2	+1·1	0
	Srinagar	−2·2	+0·3	+0·4	+1·5	+1·6	−0·5	−0·6	0	−0·1	+1·3	+0·6	+2·0	+0·4
	Kailang	+0·7	+0·6	+0·2	+1·2	+0·1	−0·1	+0·1	+1·0	+1·0	+0·8	+1·7	+1·5	+0·7
	Simla (Ridge)	+1·1	+1·0	+1·1	+1·9	+1·1	−3·3	−0·3	+0·9	+2·6	−0·2	+0·3	+1·7	+0·7
	Chakrata	+1·4	+1·1	−0·7	+1·2	+0·7	−1·6	−4·1	+0·6	+2·4	+0·1	+0·2	+0·7	+0·2
	Ranikhet	+1·5	+0·5	−0·2	+0·6	+0·2	−2·2	−0·2	+0·5	+2·0	−0·2	−0·2	+2·0	+0·4
	Katmandu	+1·3	−0·7	−1·5	−1·0	−0·4	−0·1	+0·9	−0·4	+0·5	−0·1	−0·5	+0·3	−0·1
	Darjeeling	+0·8	−1·3	−0·3	−1·0	−0·8	−1·6	−1·0	−1·8	−0·6	−0·8	−0·8	+0·6	−0·7
Hill Stations, Central India.	Mount Abu	+1·	−0·6	−0·8	−0·4	−0·2	−4·1	−1·5	+1·0	+2·4	−1·1	+0·5	+1·0	−0·2
	Pachmarhi	+2·6	+0·5	+0·2	+0·6	0	−1·0	+0·1	+0·8	+1·7	−0·1	−0·4	+1·9	+0·6
	Chikalda	+0·6	−0·4	−0·8	+0·5	−0·7	−2·0	−0·8	−0·2	+0·8	−3·1	−1·7	+0·4	−0·6
Hill Station, South India.	Wellington	−0·6	0	−1·4	+0·8	−0·6	+0·1	+1·1	+0·4	+1·5	+0·2	0	−0·5	+0·1
Extra India.	Aden	+0·5	+0·9	+0·3	−1·6	+2·1	+1·4	+1·7	+1·0	+0·5	−0·5	+0·5	+1·0	+0·7
	Perim	+1·1	+2·0	+1·2	−1·4	−0·8	−1·4	−1·8	−1·8	−1·0	−0·8	−1·0	+0·6	−0·4
	Zanzibar	+1·6	+1·4	+0·7	−0·4	+0·1	+1·1	+1·2	+1·5	+1·0	+1·6	+0·3	+3·5	+1·1
	Port Victoria (Seychelles).	−0·3	+0·1	−1·6	−0·1	−0·6	−2·5	−0·6	−1·5	+0·1	−0·7	−0·1	−0·7	−0·7

TABLE XXIII.—*Geographical Summary of the cloud data of Table II in the monthly weather reviews of 1900.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalaya	5—6	+0·5	+0·5	0	+1·2	+0·6	—1·3	—0·9	+0·4	+1·2	+0·4	+0·5	+1·5	+0·4
Sikkim Himalaya and Nepal.	2	+1·1	—1·0	—0·9	—1·0	—0·6	—0·9	—0·1	—1·1	—0·1	—0·5	—0·7	+0·5	—0·4
Punjab Plains .	3	+0·1	0	+0·5	+1·1	+0·9	—1·7	—1·2	—0·2	+2·1	+0·4	+1·1	+2·0	+0·4
Gangetic Plain .	5	+2·3	+0·1	—0·5	+0·9	+0·8	—0·1	+0·3	+0·3	+1·9	—0·2	—0·1	+1·9	+0·6
Western Rajputana .	4	+0·9	—0·5	—1·1	—0·6	—0·5	—2·7	—2·1	+0·1	+0·8	—0·7	+0·3	+1·2	—0·4
Eastern Rajputana and Central India.	1	+1·3	+0·8	—0·4	—0·3	0	—2·8	—2·4	+0·5	+3·0	—0·7	+0·6	+2·2	+0·2
Nerbudda Valley .	1	+1·7	+0·2	+0·4	+0·4	—0·8	—1·5	—0·3	+0·3	+1·6	—1·2	—0·2	+0·8	+0·1
Chota Nagpur .	1	+5·2	+0·9	—1·3	+2·6	+0·9	+1·3	+0·7	+1·0	+1·7	0	—1·0	+1·2	+1·1
Lower Bengal . .	2	+1·9	+2·1	—0·4	+1·0	—0·9	—0·4	0	+0·6	+0·7	—0·3	—1·1	—0·4	+0·3
Orissa . . .	1	+2·8	+2·8	+0·9	+1·6	—0·3	+0·1	+0·7	+0·8	+1·1	+0·8	—1·0	—0·8	+0·8
Central Provinces, South, and Berar.	5	+2·0	+0·3	—0·4	+0·6	—0·5	—1·2	0	+0·3	+1·1	—1·3	—0·9	+1·0	+0·1
Konkan . . .	2	+0·4	+0·2	—0·4	—0·6	—1·9	—0·5	+0·4	+0·8	—0·5	—1·8	—0·7	—0·1	—0·4
Deccan, Hyderabad and Mysore.	9	+0·9	+0·1	—0·3	+0·9	—0·3	0	+0·5	+0·4	+0·8	—0·4	—0·4	—0·1	+0·2
East Coast and Carnatic.	2	+0·3	—0·7	—0·9	+1·6	—0·4	+0·3	+1·1	+0·1	+0·8	0	+0·3	+0·1	+0·2
Arakan and Pegu .	4	+0·2	0	+0·5	—0·1	—0·2	+0·8	+0·2	+0·4	—0·3	—0·2	—1·2	0	0
Bay Islands . .	2	—0·1	—0·2	+1·1	—0·3	—0·3	+0·8	—0·1	+0·2	+0·8	+1·1	—1·1	+0·4	+0·2
Extra-Tropical India.	25—26	+1·3	+0·3	—0·3	+0·6	+0·2	—1·1	—0·7	+0·2	+1·4	—0·1	+0·1	+1·3	+0·3
Tropical India .	25	+0·8	0	—0·2	+0·5	—0·5	0	+0·4	+0·4	+0·6	—0·5	—0·6	+0·2	+0·1
Whole India . .	50—51	+1·1	+0·2	—0·3	+0·6	—0·1	—0·6	—0·2	+0·3	+1·0	—0·3	—0·3	+0·7	+0·1

TABLE XXIV.—*Variations of the mean cloud amount from the normal in 1900 in nine meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands .	—0·2	—0·3	+0·7	—0·3	+0·1	+0·6	+0·1	+0·3	0	+0·3	—1·1	+0·2	0
Bengal and Orissa . .	+2·0	+2·1	+0·2	+1·1	—0·8	+0·2	+0·4	+0·7	+0·7	+0·3	—1·0	—0·4	+0·5
Gangetic Plain and Chota Nagpur.	+4·0	+0·2	—1·0	+1·1	+0·4	—0·1	+0·4	+0·3	+1·5	—0·2	—0·4	+1·1	+0·6
Upper Sub-Himalayas . .	+1·1	0	0	+1·2	+0·9	—0·7	—0·5	+0·4	+2·4	—0·1	+0·2	+2·3	+0·6
Indus Valley and North-West Rajputana.	+0·3	—0·1	—0·5	—0·1	+0·3	—1·1	—1·7	—0·7	+0·3	+0·3	+0·9	+1·5	0
East Rajputana, Central India and Gujarat.	+0·9	+0·1	—0·8	—0·6	—0·4	—3·1	—2·2	+0·7	+2·0	—1·2	+0·3	+1·3	—0·3
Deccan	+1·7	0	—0·3	+0·5	—0·7	—0·8	+0·1	+0·2	+0·8	—1·3	—0·6	+0·1	0
West Coast	+0·4	+0·2	—0·4	—0·6	—1·9	—0·5	+0·4	+0·8	—0·5	—1·8	—0·7	—0·1	—0·4
South India	+0·6	+0·1	—0·6	+1·3	—0·1	+0·4	+0·9	+0·5	+1·0	+0·4	—0·1	+0·3	—0·4

***The cold-weather period*:**—Weather was less disturbed than usual in January. A large number of depressions affected the weather in North-Western India in February. They were feeble, but gave rise to much cloud. There was, on the mean of the period, more cloud than usual over nearly the whole of India, but less in Lower Burma. The

chief feature was an abnormally large amount of cloud in North-Eastern India.

Cloud was normal or in slight excess on the mean of the period in Baluchistan, North-Western and Central India and Bihar. The following gives data for these areas :—

Area.	Variation of mean cloud amount from normal in		
	January.	February.	Period January and February.
Baluchistan	+0·3	+0·7	+0·5
Punjab	+0·1	0	+0·1
Sind	+0·6	−0·5	+0·1
Rajputana	+0·9	+0·1	+0·5
Bihar	+2·3	−0·7	+0·8

The amount of cloud was, on the other hand, considerably above the normal at the majority of the hill stations in *North-Western India, as shown below* :—

Station.	Variation of cloud amount from normal in		
	January.	February.	Period January and February.
Leh	+0·2	−0·4	−0·1
Kailang	+0·7	+0·6	+0·7
Simla	+1·1	+1·0	+1·1
Ranikhet	+1·5	+0·5	+1·0
Mount Abu	+1·9	−0·6	+0·7

The chief feature in the distribution of cloud was the large excess in North-Eastern India, the North-Western Provinces, Berar and the Central Provinces :—

Area.	Variation of cloud amount from normal in		
	January.	February.	Period January and February.
Bengal	+1·7	+1·8	+1·8
Orissa	+2·8	+2·8	+2·8
Chota Nagpur	+5·2	+0·9	+3·1
North-Western Provinces	+2·4	+0·4	+1·4
Central Provinces	+2·1	+0·6	+1·4
Berar	+2·3	+0·2	+1·3

The amount of cloud was slightly greater than usual over the greater part of the Peninsula, as shown below :—

Area.	Variation of mean cloud amount from normal in		
	January.	February.	Period January and February.
Mysore	+0·3	+0·2	+0·3
South India	0	−0·7	−0·4
Madras (Central)	+2·3	+1·5	+1·9
Madras Coast	+0·5	−0·6	−0·1
West Coast	+0·4	+0·2	+0·3
Bombay Deccan	+1·2	−0·6	+0·3

Cloud was in defect throughout the period in Lower Burma, as shown by the following data :—

Station.	Variation of mean cloud amount from normal in		
	January.	February.	Period January and February.
Rangoon	−1·2	−0·9	−1·1
Diamond Island	−0·9	−0·7	−0·8

II. The hot-weather period.—March and May were drier months and, on the whole, less disturbed than usual in India generally, and there was hence less cloud than usual. Weather in April was, on the other hand, very unsettled over the whole area, but more especially in Northern and Central India and the interior of the Peninsula. Cloud was in marked excess in that month over the whole of India, except Burma, Rajputana, Sind and the West Coast districts.

The following is a summary of the chief abnormal features of the distribution of cloud during this season :—

(1) There was more cloud than usual throughout the period in the Punjab and in April and May in the North-Western Provinces. The following gives data :—

Area.	Variation of mean cloud amount from normal in			
	March.	April.	May.	Period March to May.
Punjab	+0·5	+1·1	+0·9	+0·8
North-Western Provinces	−0·4	+1·1	+1·1	+0·9

The variations in the amount of cloud at the hill stations in Upper India and Baluchistan were generally similar to those in the adjacent plains, and were generally larger in

amount on the mean of the period than at the neighbouring plains stations :—

Station.	Variation of cloud amount from normal in			
	March.	April.	May.	Period March to May.
Quetta	−0·7	+1·0	+2·6	+1·0
Kailang	+0·2	+1·3	+0·1	+0·5
Srinagar	+0·4	+1·5	+1·6	+1·2
Simla	+1·1	+1·9	+1·1	+1·4
Chakrata	−0·7	+1·2	+0·7	+0·4
Ranikhet	−0·2	+0·6	+0·2	+0·2

(2) Cloud was in moderate to considerable defect in the West Coast districts, the Bombay Deccan, Berar, Sind, Rajputana and Bihar, as shown below :—

Area.	Variation of cloud amount from normal in			
	March.	April.	May.	Period March to May.
Sind	−1·2	−0·6	−0·5	−0·8
Rajputana	−0·8	−0·6	−0·4	−0·6
Bombay Coast	−0·4	−0·6	−1·9	−1·0
Bombay Deccan	−0·4	+0·1	−1·2	−0·5
Berar	−0·7	+0·1	−1·3	−0·6
Bihar	−1·1	0	−0·2	−0·4

(3) Cloud was on the mean of the whole period normal or in slight excess over the remainder of India. This was chiefly or solely due to the large excess in April, as cloud was generally below the normal in March and May in these areas.

The following gives data :—

Area.	Variation of mean cloud amount from normal in			
	March.	April.	May.	Period March to May.
Chota Nagpur	−1·3	+2·6	+0·9	+0·7
Bengal	−0·1	+0·9	−0·8	0
Orissa	+0·9	+1·6	−0·3	+0·7
Burma	+0·5	−0·4	+0·1	+0·1
Central Provinces	+0·2	+1·1	−0·1	+0·4
Madras Deccan	+0·7	+2·1	+0·7	+1·2
Madras Coast	−0·7	+1·6	−0·7	+0·1

(4) Cloud was in large excess in the south-east of the Bay, as represented by Port Blair in March, and was about normal in April and May, as shown below :—

Station.	Variation of cloud amount from normal in			
	March.	April.	May.	Period March to May.
Port Blair	+1·3	+0·3	+0·3	+0·6

The south-west monsoon period.—The variations in the distribution of cloud from the normal during this period were very strongly marked. The south-west monsoon currents advanced over the Arabian Sea much later than usual, and extended very slowly into the interior of India, where they were not fully established until nearly the end of July. There was hence much less cloud than usual in June and July over nearly the whole of the interior of North-Western and Central India, the interior of the Peninsula and the West Coast districts. The Bombay current increased rapidly in strength during the last week of July, and was as a rain-giving current strong during the remainder of the period, *i.e.*, in August and September. Cloud was hence above the normal to a marked extent in August and September over the whole area dominated by the Bombay current.

The Bay current advanced into North-Eastern India about the middle of June, and was determined chiefly to Burma and North-Eastern India in June and July, when these areas had hence slightly more cloud than usual. In August and September the current was determined to the Gangetic Plain and Upper India, and hence diverted from North and East Bengal and Assam, thus diminishing the amount of cloud in these areas.

The following gives the chief features of the cloud distribution and its variations from the normal during the months of June and July.

(1). Cloud was in slight to moderate excess in the Andamans, Burma, Bengal, Orissa, Bihar and Chota Nagpur, as shown below :—

Area or Station.	Variation of cloud amount from normal in		
	June.	July.	Period June and July.
Port Blair	+0·5	+0·4	+0·5
Burma	+0·7	0	+0·4
Bengal	+0·2	+0·3	+0·3
Orissa	+0·1	+0·7	+0·4
Chota Nagpur	+1·3	+0·7	+1·0
Bihar	−0·2	+0·5	+0·2

(2) Cloud was in slight to moderate excess in the Central and South Deccan, Mysore and the Coromandel Coast districts. The following gives data in illustration :—

Station.	Variation of cloud amount from normal in		
	June.	July.	Period June and July.
Bellary	+1·0	+1·0	+1·0
Bangalore	−0·7	+1·7	+0·5
Mysore	+1·6	+0·9	+1·3
Madras	+0·2	+1·1	+0·7
Hyderabad	+0·5	+0·5	+0·5
Wellington	+0·1	+1·1	+0·6

(3) Cloud was in marked defect over nearly the whole area usually dependent upon the Bombay current, and more especially in the northern districts of that area. The following gives variation data of this area for this period :—

Area.	Variation of cloud amount from normal in		
	June.	July.	Period June and July.
Punjab	−1·7	−1·2	−1·5
Sind	−1·6	−2·4	−2·0
Rajputana	−3·1	−2·2	−2·7
Berar	−1·3	+0·4	−0·5
Central Provinces	−0·9	−0·2	−0·6
West Coast	−0·5	+0·4	−0·1

The area of greatest deficiency included Rajputana, Sind and the South Punjab.

(4) Cloud was normal in the North-Western Provinces, as shown below :—

Area.	Variation of cloud amount from normal in		
	June.	July.	Period June and July.
North-Western Provinces and Oudh	0	+0·2	+0·1

(5) The decreased cloud amount was very strongly marked at the hill stations in the North-Western Himalayas in June, which was an exceptionally dry month in the Western Himalayas and the cloud amount smaller than in the corresponding period of the past 25 years. The following gives data :—

Station.	Variation of cloud amount from normal in		Mean of period June and July.	
	June.	July.	Actual.	Variation from normal.
Simla	−3·3	−0·3	5·6	−1·8
Chakrata	−1·6	−4·1	3·9	−2·9
Ranikhet	−2·2	−0·3	5·8	−1·2

The following gives the mean actual cloud amount at these stations, month by month, during the period:—

Station.	Actual cloud amount in		Period June and July.
	June.	July.	
Simla	2·6	8·5	5·6
Chakrata	3·3	4·3	3·9
Ranikhet	3·3	8·3	5·8

The chief features of the distribution of cloud in August and September were as follows :—

(1) Cloud was in slight excess in the West Coast districts in August and in slight defect in September, and was on the mean of the period normal. It was throughout in slight defect in Sind.

The following gives data:—

Area.	Variation of mean cloud amount from normal in		
	August.	September.	Period August and September.
West Coast	+0·8	−0·5	+0·2
Sind	−0·7	−0·1	−0·4

(2). Cloud was normal or in slight excess generally in the North-Western Provinces, Rajputana and the Punjab in August and in large excess in September. It was hence in moderate to considerable excess on the mean of the period in these areas, as shown below :—

Area.	Variation of mean cloud amount from normal in		
	August.	September.	Period August and September.
Punjab	−0·2	+2·1	2·0
Rajputana	+0·7	+2·6	+1·4
North-Western Provinces and Oudh	+0·5	2·2	+1·4

(3) Cloud was also in moderate excess on the mean of the period over the greater part of the interior of the Peninsula. The following gives data:—

Area.	Variation of mean cloud amount from normal in		
	August.	September.	Period August and September.
Berar	+0·3	+1·1	+0·7
Central Provinces	+0·2	+1·3	+0·8
Bombay Deccan	−0·1	+0·1	0
Mysore	+0·5	+1·1	+0·8
Madras Deccan	+1·0	+1·1	+1·1
South India	+0·4	+0·9	+0·7

(4) Cloud was very slightly below the normal in Burma, and in slight to considerable excess in Bengal, Orissa, Chota Nagpur and Bihar, as is shown below:—

Area.	Variation of mean cloud amount from normal in		
	August.	September.	Period August and September.
Burma	+0·3	−0·5	−0·1
Orissa	+0·8	+1·1	+1·0
Bengal	+0·6	+0·5	+0·6
Chota Nagpur	+1·0	+1·7	+1·4
Bihar	−0·5	+0·8	+0·2

IV.—The retreating monsoon period.—The south-west monsoon currents retreated slightly earlier than usual from North-East India and Burma and a month to six weeks earlier than usual from the Deccan. From the fourth week of October the retreating monsoon current was chiefly determined to the south-west of the Bay and Southern India, and withdrew from the whole of the Bay in the third week of November, and hence much earlier than usual. A large number of feeble depressions appeared in the Persian area and Upper India during the period. They gave practically no rain in October, November and the first-half of December in Upper India, although they gave frequent cloud. Weather was disturbed with much cloud in the Punjab plains and with heavy rain or snow in the hills during the last fortnight of December. The following gives the chief features of the distribution of cloud during the period:—

(1) Cloud was throughout the period in slight to considerable excess in Baluchistan and North-Western India, the amount and extension of the area of excess increasing with the advance of the season, as is shown below:—

Area.	Variation of mean cloud amount from normal in			
	October.	November.	December.	Period October to December.
Baluchistan (Quetta)	+0·8	+2·2	+2·5	+1·8
Sind	0	+0·3	+1·8	+0·7
Punjab	+0·4	+1·1	+2·0	+1·2
North-Western Provinces and Oudh.	−0·1	0	+2·3	+0·7
Rajputana	−1·2	+0·3	+1·3	+0·1

(2) The variations in the hill districts in Upper India were, on the whole, similar to those of the adjacent plains, but less pronounced, as is shown by the following data:—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period October to December.
Leh	+0·6	+0·2	+1·1	+0·6
Simla	−0·2	+0·3	+1·7	+0·6
Chakrata	+0·1	+0·2	+0·7	+0·3
Ranikhet	−0·2	−0·2	+2·0	+0·5
Mount Abu	−1·1	+0·5	+1·0	+0·1

(3) Cloud was in defect on the mean of the period over the large area including Burma, Bengal, Bihar, Central India, Berar, the Central Provinces, the Deccan and Konkan. The deficiency generally decreased in amount with the advance of the season. The following gives comparative data:—

Area.	Variation of mean cloud amount from normal in			
	October.	November.	December.	Period October to December.
Burma	−0·1	−1·3	0	−0·5
Bengal	+0·1	−1·0	−0·3	−0·4
Bihar	−0·7	−0·4	+0·1	−0·3
Central Provinces	−0·9	−0·5	+1·2	−0·1
Berar	−1·4	−0·9	+0·6	−0·6
Deccan	−0·8	−0·1	−0·3	−0·4
Konkan	−1·8	−0·7	−0·1	−0·9

The deficiency was most marked at stations in the area for which data are given below :—

Station.	Variation of cloud amount from normal in.			
	October.	November.	December.	Period October to December.
Poona	—1·8	—0·4	—0·5	—0·9
Sholapur	—2·2	—0·9	—1·2	—1·4
Hyderabad (Deccan)	—0·6	—0·7	—0·7	—0·7
Diamond Island	+0·1	—1·5	—1·2	—0·9
Belgaum	—1·5	—0·3	—0·2	—0·7
Buldana	—1·1	—1·2	—0·3	—0·9
Karwar	—1·8	—0·7	—0·6	—1·0

(4) Cloud was in slight excess throughout the period in South India and normal in amount in Mysore and the Madras Coast districts. It was in excess at Port Blair in October and December and below the normal in November. The variation for the period was small, as is shown by the following data :

Area or Station.	Variation of mean cloud amount from normal in			
	October.	November.	December.	Period October to December.
Port Blair	+0·9	—0·4	+0·4	+0·3
Madras Coast	—0·2	+0·2	—0·2	—0·1
Mysore	+0·4	—0·6	+0·3	0
South India	+0·2	+0·3	+0·3	+0·3

(5) Cloud was considerably above the normal in Persia and slightly to considerably above in Arabia, as is shown below :—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period October to December.
Baghdad	+2·2	+1·7	+1·5	+1·8
Bushire	+1·0	0	+2·0	+1·0
Aden	—0·5	+0·5	+1·0	+0·3
Muscat	+0·1	+0·7	+3·5	+1·4

The year.—The mean cloud amount of the year in India was 0·2 above the normal. The variations in Tropical India and Extra-Tropical India and also of the whole of India for each of the four periods of the year are given below :—

Area.	Variation of mean cloud amount from normal in				
	I. Period.	II. Period.	III. Period.	IV. Period.	Whole year.
Extra-Tropical India	+0·8	+0·2	—0·1	+0·4	+0·3
Tropical India	+0·4	—0·1	+0·4	—0·3	+0·1
Whole India	+0·7	+0·1	+0·1	0	+0·2

The following table gives the variations of the mean amount of cloud in the Indian area, year by year, for the period 1875 to 1900 :—

Year.	Amount of variation.	Year.	Amount of variation.
1875	0	1888	—0·1
1876	—0·2	1889	+0·1
1877	+0·3	1890	+0·2
1878	+0·1	1891	+0·1
1879	—0·1	1892	+0·1
1880	—0·1	1893	+0·5
1881	—0·1	1894	+0·5
1882	0	1895	+0·1
1883	+0·1	1896	—0·2
1884	—0·1	1897	— 0
1885	+0·2	1898	—0·2
1886	+0·2	1899	—0·3
1887	— 0·1	1900	—0·2

Rainfall.

The rainfall data of India are now issued in a separate volume. The tenth volume, that of 1900, contains the rainfall data of 2,326 stations, which are classified under their respective administrative divisions according to the following scheme:—

Province.	Number of stations.
Burma	149
Assam	146
Bengal, Bihar, Chota Nagpur and Orissa	360
North-Western Provinces and Oudh	277
Punjab	211
Bombay	277
Madras	379
Coorg	10
Central Provinces	67
Berar	43
Mysore	78
Baluchistan	47
Kashmir	35
Rajputana	143
Central India	59
Hyderabad (Deccan)	22
Travancore	39
Cochin	3
Pudukota	11

The volume contains the whole of the available information for the year 1900 of this important element of meteorological observation.

The information includes monthly statements of—

(*a*) the actual rainfall, day by day, of all the rainfall stations;

(*b*) the total rainfall of the month;

(*c*) the number of rainy days during the month;

(*d*) the average or normal rainfall of the month for all stations for which rainfall data of at least five years are available;

(*e*) the average or normal number of rainy days of the month for all stations for which rainfall data of five years or upwards are available;

(*f*) the accumulated rainfall (up to the date of each statement) throughout each of the seasons into which the year is divided.

Symons's rain-gauges are now used at all rain-gauge stations, with the exception of those in Mysore. The hour of measuring rainfall is 8 A.M. throughout India, and the amounts registered give the rainfall of the previous 24 hours, and hence generally of the previous civil day.

In Table XXV of the Annual Summary for 1896 are given the normal means of rainfall for 535 stations determined from the whole of the available data down to December 1896. The stations for which the means are given were selected by Mr. Blanford, and normal means were given in the rainfall sections of the Annual Reports on the Meteorology of India. The last series of means was given in the Annual Report on the Meteorology of India for 1890. The normal means in Table XXV of the Annual Summary for 1896 are based on six years' additional data. This period, however, includes the three years 1892—94 of abnormally heavy rainfall, and hence the means given in this table are in almost all cases higher than those given in Table XXXI of the Annual Report on the Meteorology of India for 1890. The following gives six instances of the considerable apparent increase in the mean rainfall:—

Province.	Station.	Average annual rainfall based on data up to 1890.	Average annual rainfall based on data up to 1896.	Increase in average result.
		Inches.	Inches.	Inches.
Bombay	Lanavla	164·24	172·75	+8·51
	Jetalsar	23·60	30·39	+6·79
Bengal and Orissa	Keonjhar	31·29	37·98	+6·69
	Narsingpur	39·02	44·72	+5·70
	Bispara	49·69	55·07	+5·38
Central Provinces	Sarangarh	50·50	55·84	+5·34

Table XXXV gives the variations of the monthly and annual rainfall in 1900 of 534 stations in India, Baluchistan and Burma.

The following four tables (Tables XXVI to XXIX) give summaries of the rainfall data of the year. In the first two tables (Tables XXVI and XXVII) the summaries are drawn up in the form that was used for many years in the Annual Reports issued by the Department and are based on the rainfall returns of 432 selected stations. In the two succeeding tables (Tables XXVII and XXIX) the actual average rainfall data (derived from the returns of 2,326 rain-gauge stations in India) are given for the 57 meteorological districts into which the Empire is divided for the comparison of crops and rainfall for the four periods into which the year may be arranged. The four periods are as follows:—

1st.—From January 1st to February 28th, which forms the period of the cold-weather rains of Upper India.

2nd.—From March 1st to May 31st, which includes the hot season, when rain occurs mainly in the coast districts, and in Assam during thunderstorms.

3rd.—From June 1st to October 31st, which forms the period of the south-west monsoon rains proper.

4th.—From November 1st to December 31st, which includes the period of the so-called north-east monsoon rains of Southern India, more especially of the Coromandel Coast districts.

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years.*

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.	Inches.
Baluchistan.	Kalat	−1·18	−1·48	−1·10	+0·21	+1·15	−0·21	−0·50	−0·10	−0·05	−0·07	+0·85	+4·18	+1·70
	Pishin	−0·46	+0·04	−0·46	+0·53	+0·47	−0·06	−0·21	−0·21	−0·01	−0·06	+1·27	+2·32	+3·16
	Chaman	−0·32	+0·20	−1·34	+1·01	+0·40	−0·22	−0·29	0	0	−0·09	+0·57	+2·55	+2·47
	Quetta	−0·03	+0·45	−1·16	+0·54	+0·74	−0·19	+0·57	−0·60	−0·13	−0·09	+1·36	+3·41	+4·87
	Mach	−1·53	−2·50	−0·35	−0·02	+0·07	−1·25	−0·93	+0·82	−0·05	−0·62	+0·77	+3·05	−2·54
	Beleli	−0·12	−0·37	−0·66	+1·39	+0·19	−0·22	−0·11	−0·16	−0·04	−0·10	+1·18	+2·41	+3·39
	Kuchlak	−0·28	−0·28	−0·36	+0·88	+1·24	−0·13	−0·19	−0·25	−0·19	−0·13	+1·26	+1·60	+3·17
	Fort Sandeman	−0·71	−0·35	+0·08	+0·90	+1·49	−0·74	−2·12	−0·16	+0·23	−0·05	+0·13	+0·83	−0·47
	Bostan	+0·06	−0·82	−0·36	+0·59	+0·50	−0·29	−0·44	−0·26	−0·04	−0·07	+1·65	+1·59	+1·51
	Yarookarez	+0·50	−0·21	−0·44	+0·86	+0·32	−0·08	−0·02	−0·23	0	−0·07	+1·24	+2·10	+3·97
	Syad Hamed	+0·48	−1·44	−0·21	+0·91	0	−0·01	0	−0·13	0	−0·10	+0·67	+1·70	+1·87
	Gulistan	+0·69	−0·18	−1·35	+1·17	−0·01	−0·07	−0·05	0	−0·06	−0·10	+0·90	+1·94	+2·88
	Killa Abdulla	+0·73	−0·26	−0·50	+0·97	−0·10	−0·05	−0·13	−0·04	−0·03	−0·15	+1·98	+1·91	+4·33
	Khanai	−1·77	−0·75	0	+0·30	+0·44	−0·28	−0·25	−0·30	0	−0·11	+1·18	+1·11	−0·43
	Fuller's Camp	−2·28	−1·00	−1·41	+0·49	+0·21	−0·16	+0·35	−0·22	−0·09	−0·13	+1·25	+1·23	−1·76
	Kachh	+2·36	−0·08	−0·96	+0·36	+0·30	−0·36	+0·27	−0·23	−0·14	−0·10	+1·00	+7·25	+9·67
	Mulgorge	−0·76	−0·62	−0·73	+0·72	+0·48	−0·30	+0·11	−0·44	−0·06	−0·13	+0·79	+2·43	+1·54
	Mangi	+0·41	−1·08	−0·12	−0·13	+0·08	−0·79	−0·46	−0·32	−0·16	−0·13	−0·24	+2·10	−0·84
	Dirgi	+0·06	−1·14	+0·29	+0·08	+0·19	−0·68	−0·52	−0·36	−0·15	−0·09	+0·03	+2·03	−0·26
	Khost	−2·20	−1·92	+0·65	−0·02	−0·17	−0·67	−1·03	+0·67	−0·24	−0·29	−0·39	+1·45	−4·16
	Shahrig	−2·21	−1·38	+0·43	−0·23	−0·33	−1·25	−1·73	+1·25	+0·98	−0·17	−0·30	+1·78	−3·16
	Nasak	−0·99	−2·27	+0·13	−0·25	−0·38	−1·69	−0·81	+1·28	−0·59	−0·13	−0·20	+1·58	−4·32
	Harnai	−1·31	−2·25	−0·20	−0·19	−0·16	−1·67	−1·89	+0·78	+0·48	−0·12	−0·60	+1·04	−6·09
	Sunari	−1·01	−1·62	−0·25	+0·01	−0·09	−1·39	−2·50	−0·40	−0·26	−0·12	−0·10	+1·11	−6·62
	Spintangi	−0·69	−1·82	−0·11	−0·30	−0·28	−1·11	−1·57	+0·81	+0·16	0	−0·57	+1·37	−4·11
	Mushkaf	?	?	−0·39	−0·06	0	−0·33	−0·69	+1·42	+0·28	0	−0·17	+3·39	?
	Baber Kach	−0·77	−1·08	+0·22	+0·02	−0·06	−0·49	−1·29	+2·36	+0·76	−0·04	−0·31	+1·78	+1·10
	Loralai (Hospital)	−0·68	−0·80	+0·55	−0·05	+0·31	−0·67	+0·19	+0·54	−0·20	−0·14	−0·09	+1·30	+0·26
	Nari	−0·68	−0·80	+0·16	−0·08	−0·10	−0·35	−0·31	+0·11	+0·65	−0·01	−0·32	+1·83	+0·10
	Sibi	−0·03	−0·45	−0·07	+0·17	−0·04	−0·30	−1·61	+1·66	+1·05	0	−0·26	+2·14	+2·26
	Kolepur	+3·34	−1·77	−0·28	+0·41	+0·37	−0·16	−1·47	−0·76	−0·21	−0·06	+0·50	+4·93	+4·84
	Mittri	−0·69	−0·28	+0·08	−0·15	0	−0·28	+2·00	+0·53	+0·68	−0·03	−0·23	+1·33	+2·96
	Lindsay	−0·51	−0·53	−0·26	−0·11	−0·12	−0·23	−1·13	+1·86	+1·51	0	−0·19	+1·84	+2·13
	Bellput	−0·35	−0·22	+0·73	+0·22	−0·03	−0·15	−0·54	+1·59	+0·17	0	−0·28	+1·92	+3·06
	Nuttal	−0·59	−0·41	+0·01	+0·16	−0·17	−0·11	−0·26	−0·36	0	0	−0·56	+1·44	−0·85
	Temple Dera	−0·61	−0·46	+0·13	+0·22	−0·06	−0·33	−0·59	?	−0·03	0	−0·33	+1·60	?

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BALUCHISTAN —*concld.*	Jhatput . .	−0·37	−0·43	−0·11	+0·07	+0·10	−0·16	−0·50	−0·27	−0·17	0	−0·29	+1·29	−0·87
	Sangai . .	+0·86	+0·76	−0·85	+0·48	+0·05	−0·02	−0·38	−0·09	0	−0·19	+1·44	+3·64	+5·70
	Shalabagh .	+1·26	−0·86	−1·95	+0·92	+0·33	−0·04	−0·71	0	0	−0·16	+0·65	+1·28	+0·72
	Panir . .	−1·05	−0·66	+0·09	0	0	−0·31	−0·70	+0·36	−0·04	−0·01	+0·04	+2·61	+0·33
PUNJAB.	Abbottabad .	+1·79	−0·04	−0·61	+2·13	+0·18	−2·17	+3·06	−3·08	+4·61	+1·99	−0·26	+1·65	+9·25
	Cherat . .	+0·51	+0·57	−2·99	+2·58	+2·19	−0·30	−2·66	+3·37	−0·20	+0·03	−0·18	+2·32	+5·64
	Murree (Obsy.) .	+1·29	−2·07	+0·31	+3·13	−0·61	−1·56	+3·16	−3·73	+8·81	+0·48	−1·25	+1·31	+9·27
	Poo . .	+0·63	−1·45	−1·87	+2·97	+1·04	+0·08	−0·85	+0·14	−0·08	−0·64	−0·78	+2·19	+0·12
	Dharamsala .	+0·27	−2·85	−1·94	+4·21	−0·12	−6·17	−2·17	+14·04	+23·83	−0·71	−0·38	+5·25	+33·26
	Kailang . .	−0·05	−1·01	−1·10	+6·60	+0·99	+0·03	+1·16	+2·98	−1·03	−0·42	−0·60	+2·33	+9·88
	Kilba . .	+0·64	+0·04	−3·03	+1·95	−0·44	−1·95	−1·24	−1·36	−1·80	−0·76	−1·98	+3·41	−6·52
	Simla (Obsy.) .	+0·09	−0·64	−1·69	+0·43	+0·18	−5·98	+0·22	−2·38	−1·59	−1·12	−0·45	+2·38	−10·55
	Peshawar (Obsy.)	0	+0·14	−0·97	+0·21	+1·76	−0·21	−1·51	−0·87	+0·04	−0·15	−0·55	+0·35	−1·76
	Kohat . .	+1·41	+0·30	−1·11	+0·39	+0·19	−0·45	−1·32	+1·03	−0·43	−0·51	−0·66	+0·51	−0·65
	Bannu . .	+0·20	−0·08	−0·05	+1·46	+1·43	−0·53	−1·26	−2·23	+2·61	−0·15	−0·11	+0·38	+1·67
	Dera Ismail Khan	+0·11	−0·48	−0·41	+0·02	+1·24	−0·65	−0·97	−0·73	+0·01	0	−0·16	+0·32	−1·70
	Dera Ghazi Khan	−0·08	−0·31	−0·40	+0·42	−0·16	−0·51	−1·71	−0·71	+1·35	−0·05	−0·13	+0·41	−1·88
	Muzaffargarh .	+0·08	−0·07	−0·17	+0·55	−0·06	−0·38	−1·34	−0·07	+0·90	−0·08	−0·09	+0·20	−0·53
	Mooltan (Obsy.)	−0·21	+0·02	−0·36	+0·12	+0·02	−0·30	−2·33	+0·05	−0·65	−0·08	−0·07	+0·33	−3·46
	Jhang . .	+0·01	−0·02	−0·68	−0·04	+1·03	−0·83	−2·11	−1·35	+1·58	−0·15	−0·06	+0·44	−2·18
	Montgomery .	−0·56	−0·35	−0·47	−0·05	0	−1·20	−3·04	−1·86	+0·88	−0·14	−0·06	+0·18	−6·67
	Shahpur . .	−0·39	−0·42	−0·75	+0·35	+1·51	−0·58	−3·13	−2·45	+1·45	+0·26	−0·25	+0·68	−3·72
	Rawalpindi .	+0·92	−0·78	−0·97	+1·66	+0·80	−1·88	−1·31	−2·98	+3·50	+0·05	−0·71	+2·00	+0·30
	Jhelum . .	+0·28	+0·10	+0·81	+2·70	−0·24	−1·55	+3·09	+1·03	+6·68	−0·38	−0·27	+0·85	+13·10
	Gujarat . .	−0·31	−1·12	−1·27	+1·17	+0·09	−2·36	−2·03	−0·77	+3·94	−0·47	−0·24	+0·38	−2·99
	Sialkot (Obsy.) .	+0·36	−1·07	−0·78	−0·93	−0·56	−2·94	−2·31	−2·32	+2·52	−0·42	−0·29	+0·65	−8·09
	Gujranwala .	−0·51	−0·94	−0·60	−0·31	+0·10	−1·82	−5·22	−0·07	+4·53	−0·46	−0·22	+0·47	−5·05
	Gurdaspur .	+2·64	−1·32	−1·33	+0·31	−0·35	−4·20	+2·56	+12·57	+6·13	−0·54	−0·15	+1·28	+17·60
	Lahore . .	−0·45	−0·81	−0·77	−0·17	−0·37	−1·66	−0·61	+0·72	+5·03	−0·29	−0·13	+0·48	+0·97
	Amritsar . .	−0·22	−0·93	−0·01	+0·02	−0·46	−2·36	−0·23	+3·49	+5·54	−0·45	−0·20	+0·12	+4·31
	Ferozepore .	−0·94	−0·39	−0·44	+0·54	+0·27	−1·36	−3·78	+2·27	+12·17	−0·55	−0·06	+0·36	+8·09
	Jullundar .	+0·01	−1·02	−1·05	+0·77	−0·72	−2·72	+0·76	+11·57	+5·04	−0·41	−0·10	+1·71	+13·84
	Hoshiarpur .	+2·47	−1·62	−1·18	+0·72	−0·48	−2·64	+2·65	+13·03	+8·72	−0·36	−0·15	+0·88	+22·04
	Ludhiana . .	−0·27	−0·91	−1·36	+1·61	−0·75	−1·09	−4·06	+20·00	+6·98	−0·96	−0·09	+0·67	+19·77
	Umballa . .	+0·50	−1·07	−0·67	+0·12	−0·84	−3·90	−1·15	+3·42	−0·84	−0·28	−0·26	+1·47	−3·50
	Sirsa . .	−0·79	−0·25	−0·43	+0·83	−0·22	−1·55	−3·83	−1·76	+0·32	−0·25	−0·03	+0·08	−7·87

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.	Inches.
PUNJAB—*concld.*	Hissar	—0·41	—0·34	—0·29	+0·40	—0·24	—1·42	—2·47	+2·15	+5·40	—0·28	—0·08	+0·38	+ 2·80
	Rohtak	—0·74	—0·58	—0·42	+0·48	—0·70	—1·32	—2·96	+1·00	+5·17	—0·37	—0·04	+1·21	+ 0·73
	Delhi (Obsy.)	—0·25	—0·60	—0·15	+0·69	—0·32	—1·92	—3·92	—3·51	+15·11	—0·28	—0·08	+0·63	+ 5·40
	Gurgaon	—0·18	—0·40	—0·41	+1·13	—0·13	—0·14	—4·13	—2·34	+10·90	—0·34	+0·17	+0·54	+ 4·67
	Karnal	+0·32	—0·83	—0·80	+0·57	—0·80	—2·88	+5·33	+3·01	+9·69	+0·42	—0·13	+1·18	+15·08
SIND.	Kurrachee	—0·73	—0·32	—0·16	—0·14	—0·04	—0·51	—3·12	—0·13	—0·63	—0·05	—0·18	+0·11	— 5·90
	Sehwan	—0·33	—0·26	—0·09	—0·10	—0·11	—0·27	—1·87	—1·86	—0·25	—0·03	+0·14	+0·54	— 4·49
	Tatta	—0·34	—0·22	—0·11	—0·31	—0·02	—1·01	—3·69	+0·73	—0·64	0	—0·22	+0·21	— 5·62
	Hyderabad (Obsy.)	—0·29	—0·17	—0·13	—0·13	—0·13	—0·48	—2·71	+0·53	—0·53	0	—0·12	+0·60	— 3·55
	Umarkot	—0·21	—0·08	—0·12	—0·07	—0·10	—0·88	—3·33	+1·22	0	—0·16	—0·06	+0·44	— 3·35
	Shikarpur	—0·33	—0·34	—0·06	+0·20	—0·07	—0·11	—0·89	—0·97	—0·19	0	—0·14	+0·87	— 2·03
	Rohri	—0·33	—0·46	—0·38	+0·19	—0·17	—0·24	—1·17	—0·73	—0·26	—0·01	+0·02	+0·20	— 3·34
	Jacobabad	—0·21	—0·29	—0·23	—0·10	—0·06	—0·11	—1·23	+2·12	—0·04	—0·01	—0·06	+1·32	+ 1·10
CUTCH	Bhuj	—0·07	—0·13	—0·08	0	—0·15	—2·25	—3·23	+9·53	—0·28	—0·70	—0·09	—0·06	+ 2·49
	Rhahpur	—0·03	—0·10	—0·06	+0·71	+0·42	—1·72	—8·12	+10·76	—0·69	—0·54	—0·20	—0·01	+ 0·42
	Nagar	—0·15	—0·10	—0·05	+0·53	—0·43	—2·06	—4·97	+8·11	—0·57	—0·27	+0·07	—0·02	+ 0·09
RAJPUTANA.	Jaisalmer	—0·34	—0·13	—0·12	+0·16	—0·26	—0·88	—2·12	—0·25	+1·25	0	+0·33	—0·01	— 2·37
	Phalodi	—0·21	—0·07	—0·12	—0·02	—0·19	+0·61	—2·70	+0·45	+0·73	0	+0·04	+0·13	— 1·35
	Bikaner	—0·33	—0·21	—0·21	—0·16	—0·75	—1·71	—2·48	+0·92	+2·21	+0·15	—0·03	+0·68	— 2·52
	Nagar	—0·33	—0·10	—0·19	—0·05	+0·14	—2·03	—2·11	—1·77	+4·20	—0·06	—0·09	+0·18	— 2·21
	Didwana	—0·47	—0·16	—0·33	—0·03	—0·58	—1·48	—2·71	+0·58	+1·86	—0·15	—0·17	+0·43	— 3·21
	Jhunjhunu	—0·94	—0·24	—0·28	+0·12	+0·35	—2·41	—3·89	—2·04	+3·11	—0·14	+0·21	+1·01	— 5·14
	Khetri	—0·97	—0·71	—0·46	+0·49	+0·22	—1·98	+2·33	—2·79	+4·76	—0·26	+0·82	+1·55	+ 3·00
	Sikar	—0·56	—0·20	—0·25	+0·31	+2·36	—1·60	—1·99	+1·61	+6·25	—0·09	—0·10	+0·28	+ 6·02
	Sri Madhopur	—0·69	—0·50	—0·28	+1·08	+1·18	—1·60	—6·07	—3·76	+ 3·65	—0·06	—0·09	+0·24	— 6·90
	Alwar	—0·64	—0·40	—0·30	+0·38	—0·93	—2·79	—5·99	—5·57	+4·37	0	—0·20	+0·57	—11·50
	Bharatpur	—0·34	—0·20	—0·27	+0·40	—0·11	—1·31	—1·19	—1·03	+5·65	—0·39	—0·06	+0·92	+ 2·07
	Bandikui	—0·46	—0·17	—0·40	+0·70	—0·12	—1·69	—2·33	—5·92	+7·96	—0·12	—0·22	+0·07	— 2·70
	Jaipur	—0·45	—0·19	—0·35	+0·13	+2·36	—2·34	+0·12	—2·17	+2·14	—0·24	—0·16	+0·11	— 1·04
	Sambhar	—0·33	—0·17	—0·16	+0·28	+0·94	—1·34	—2·90	+1·69	+2·02	—0·33	—0·23	+0·31	— 0·22
	Karauli	—0·32	—0·14	—0·19	+0·87	+0·47	—3·48	—4·66	—1·87	+0·01	—0·15	—0·11	+0·69	— 8·88
	Lalsot	—0·33	—0·07	—0·17	+0·57	+1·11	—3·31	+4·86	—3·50	+1·37	—0·14	—0·13	+0·65	+ 0·91
	Tonk	—0·22	—0·22	—0·20	+0·73	—0·07	—2·91	+3·17	—4·55	+4·79	—0·52	—0·05	+0·51	+ 0·46
	Siwai Madhopur	—0·40	—0·13	—0·25	+1·16	+0·01	—4·29	+5·35	—1·10	+6·44	—0·14	—0·14	+0·09	+ 6·60
	Deoli	—0·27	—0·17	—0·16	+1·17	—0·62	—3·40	—0·85	+0·40	+8·51	—0·42	—0·14	+0·39	+ 4·44
	Kotah	—0·28	—0·21	—0·10	+2·35	+0·06	—3·45	+3·80	+8·15	+2·19	—0·37	—0·17	+1·72	+13·69

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.
RAJPUTANA—*concld.*	Jhalrapatan	−0·23	−0·31	−0·15	+0·52	−0·13	−4·47	−2·60	+19·54	+4·70	−0·97	−0·05	−0·20	+15·6
	Ajmer	−0·23	−0·31	−0·35	+0·61	−0·52	−2·57	−2·95	+4·66	+4·26	−0·20	+0·19	+0·46	+ 3·05
	Nasirabad	−0·16	−0·33	−0·12	+1·23	−0·15	−2·06	−2·30	+3·10	+3·74	−0·23	+0·04	−0·09	+· 2·67
	Malpura	−0·43	−0·04	−0·31	+0·59	−0·19	−0·61	+1·71	−3·21	+5·20	−0·02	−0·03	−0·03	+ 2·63
	Beawar	−0·24	−0·11	−0·17	+0·37	+0·53	−1·05	−1·76	+0·37	+3·71	−0·18	+0·38	+0·30	+ 2·15
	Jodhpur	−0·28	−0·16	−0·03	+0·36	+0·15	−0·19	−2·43	+0·28	+4·44	−0·13	−0·03	+0·22	+ 2·20
	Pachpadra	−0·39	−0·07	−0·12	+0·23	−0·04	−1·75	−3·39	−1·52	+0·28	−0·06	+0·23	+0·06	− 6·54
	Jasol	−0·23	−0·05	−0·10	+0·48	+0·44	−1·89	−2·32	−0·99	−0·63	−0·01	+0·13	+0·03	− 5·14
	Barmer	−0·20	−0·07	−0·09	+0·77	+0·01	−1·81	−3·23	+0·70	+0·24	−0·04	−0·02	+0·07	− 3·67
	Pali	−0·15	−0·03	−0·12	+0·61	+0·50	−2·20	−1·95	+1·27	+7·86	−0·11	+0·15	−0·10	+ 5·73
	Shahpura	−0·14	−0·17	−0·17	+1·13	−0·66	−3·51	+0·40	+2·12	+8·89	−0·45	−0·10	−0·06	+ 7·28
	Erinpura	−0·19	−0·23	−0·11	+0·83	−0·41	−2·15	−2·24	+9·78	+6·04	−0·37	+0·16	−0·07	+11·04
	Sirohi	−0·19	−0·15	−0·11	+1·69	+1·28	−3·96	−2·68	+3·77	+3·20	−0·04	+0·12	−0·04	+ 2·89
	Mount Abu	−0·15	−0·17	−0·09	+0·49	−0·30	−2·99	−7·91	−1·04	+5·48	−0·78	−0·14	−0·08	− 7·68
	Kotra	−0·13	−0·22	−0·04	+0·22	−0·13	−4·08	−5·77	+11·60	+5·67	−0·58	−0·20	−0·14	+ 6·20
	Udaipur	−0·10	−0·15	−0·08	−0·07	+0·96	−3·84	−1·80	+11·05	+5·87	−0·44	−0·21	−0·16	+11·03
	Partabgarh	−0·23	−0·08	−0·03	+0·44	−0·13	−5·26	−4·92	+13·43	+7·15	−0·74	−0·31	−0·27	+ 9·05
	Kherwara	−0·10	−0·17	−0·06	−0·02	+0·10	−4·24	−3·59	+2·50	−0·36	−0·54	−0·16	+0·19	− 6·45
	Banswara	−0·30	−0·11	−0·01	+0·04	+0·19	−5·80	−8·05	+6·73	−3·13	−0·78	−0·26	−0·35	−11·83
CENTRAL INDIA.	Neemuch (Obsy.)	−0·22	−0·15	−0·03	+0·07	−0·40	−3·24	−1·41	+4·25	+7·97	−0·71	+0·11	+0·10	+ 6·34
	Sirdarpore	−0·18	−0·18	−0·03	−0·02	−0·27	−2·69	−0·34	+2·34	−4·25	−1·11	−0·23	−0·16	− 7·12
	Agar	−0·22	−0·30	−0·04	+0·04	−0·36	−3·85	−2·78	+10·10	+7·18	−0·70	−0·20	+0·18	+ 9·05
	Rutlam	−0·16	−0·17	−0·03	+0·18	−0·41	−4·05	−3·69	+9·17	−0·62	−0·98	−0·28	−0·21	− 1·25
	Indore	−0·28	−0·26	−0·05	−0·08	−0·31	−5·03	+0·22	+6·39	+0·86	−1·21	−0·28	−0·20	− 0·23
	Bhopal (Sehore)	−0·35	−0·24	−0·16	−0·06	−0·35	−4·68	−4·86	+ 5·23	− 0·93	−1·31	−0·43	−0·78	− 8·92
	Goona	−0·32	−0·25	−0·21	+0·60	−0·04	−4·70	−0·52	+15·10	+ 5·90	−0·50	−0·39	−0·22	+14·45
	Morar	−0·25	−0·31	−0·17	+0·22	−0·40	−0·78	−1·59	− 1·51	+ 0·86	−0·50	−0·04	+1·08	− 3·33
	Nowgong	+0·57	−0·39	−0·24	−0·06	+0·17	−5·27	−9·69	− 0·02	+ 1·92	−1·16	−0·19	+1·32	−13·04
	Sutna	+1·82	−0·66	−0·43	−0·08	+1·08	−6·46	+1·82	− 2·71	+ 2·01	−0·47	−0·30	+2·09	− 2·29
	Nagode	+1·30	−0·43	−0·32	−0·15	+0·49	−5·20	−3·11	− 5·19	+ 1·71	−0·57	−0·19	+1·47	−10·19
	Maihar	+1·42	−0·47	−0·33	−0·09	+0·52	−6·84	−4·25	+ 1·10	+ 3·46	−1·25	−0·53	+0·47	− 6·79
	Rewah	+2·13	−0·78	−0·29	−0·22	+0·29	−8·54	−5·21	− 1·20	+ 2·54	−2·02	−0·33	+2·40	−11·23
	Ramnagar	+1·81	−0·25	−0·32	−0·06	−0·29	−8·74	+1·72	− 0·76	+ 3·14	−2·22	−0·37	−0·22	− 6·56
	Sihawal (Bardi)	+1·92	−0·34	−0·69	−0·07	+0·48	−5·41	−1·02	− 2·63	+ 1·29	+3·47	−0·60	+2·10	− 1·50
	Tyonthar	+1·89	−0·36	−0·35	−0·06	+0·38	−6·00	−3·15	− 6·45	+ 5·70	−1·04	−0·22	+2·28	− 7·38
	Sohagpur	+3·54	−0·71	−0·49	−0·22	+0·44	−7·53	−3·90	+ 4·76	+14·73	−0·52	−0·97	+0·15	+ 9·28

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.
North-Western Provinces	Chakrata . .	+6·28	+0·98	−1·33	+2·33	+0·20	−4·12	+2·92	− 0·21	+ 6·25	−0·83	−0·38	+4·44	+16·53
	Mussooree .	+2·81	−0·59	−2·08	+3·31	+0·30	−7·32	+0·05	− 7·98	+ 1·62	−0·64	−0·40	+5·56	− 5·36
	Srinagar . .	+1·79	+0·09	−1·61	+1·17	+0·28	−3·19	+6·86	− 0·59	+ 0·36	−0·46	−0·26	+1·19	+ 5·63
	Pauri . .	+1·44	+0·51	−1·76	+2·20	+1·73	−3·65	−0·86	+ 0·77	+ 1·98	−0·02	−0·31	+1·33	+ 3·36
	Ranikhet .	+1·25	+0·19	−1·21	+2·60	−0·86	−1·65	−3·72	− 3·29	− 0·58	−1·33	−0·28	+1·23	− 7·65
	Almora . .	+2·04	+0·99	−0·39	+1·84	+1·76	−1·68	−0·97	+ 3·68	+ 0·89	−1·15	−0·21	+1·65	+ 8·45
	Fithoragarh .	+3·56	+0·15	−1·31	+3·48	+4·04	−2·56	−4·68	+ 2·53	− 1·23	−1·33	−0·15	+1·37	+ 3·87
	Naini Tal .	+2·60	−2·33	−2·08	+1·92	−0·13	−6·83	+0·85	− 4·48	− 2·79	−1·18	−0·24	+2·17	−12·52
	Dehra Dun .	+2·29	−0·77	−1·21	+1·06	−0·77	−5·08	−1·85	− 3·29	+ 6·86	−0·89	−0·21	+2·45	− 1·41
	Saharanpur .	+0·25	−0·86	−0·92	+1·52	−0·19	−2·96	−1·36	− 0·70	+ 5·34	−0·26	−0·23	+0·70	+ 0·33
	Roorkee . .	−0·35	−0·01	−0·81	+0·85	+0·10	−2·31	−0·73	+ 1·37	+ 5·56	−0·28	−0·25	+1·39	+ 4·53
	Muzaffarnagar .	−0·70	−0·80	−0·84	+0·66	−0·82	−3·21	+0·81	+ 2·63	+ 1·48	−0·06	−0·12	+2·17	+ 1·20
	Bijnor . .	+0·21	−0·59	−0·84	+0·72	−0·68	−3·31	+2·28	+ 0·36	+ 3·09	−0·30	−0·14	+0·91	+ 1·71
	Meerut . .	−0·73	−0·72	−0·57	+0·78	−0·56	−2·49	+3·34	+ 2·38	+12·54	−0·46	−0·09	+0·80	+14·22
	Moradabad .	+2·40	+0·82	−0·76	+0·13	+0·33	−3·62	+3·13	− 1·59	+ 2·49	−0·87	−0·11	+1·09	+ 3·46
	Rudarpur .	+1·39	−0·51	−0·87	+0·42	−0·37	−3·09	+2·48	− 2·28	+ 3·30	−1·09	−0·08	+1·19	+ 0·49
	Pilibhit . .	+1·62	−0·53	−0·37	+1·12	+1·43	−4·70	−2·65	− 5·75	+ 2·59	−1·21	−0·10	+0·70	− 7·85
	Bulandshahar .	+0·89	−0·83	−0·44	+0·90	−0·44	−1·87	−4·51	+ 0·07	+ 9·96	−0·45	−0·08	+1·03	+ 4·23
	Bareilly . .	+2·29	−0·66	−0·33	+0·66	−0·30	−2·90	+0·07	− 3·19	+ 3·98	−1·26	−0·21	+0·92	− 0·93
	Budaun . .	+0·82	−0·55	−0·34	+1·05	+0·69	−2·07	−2·75	− 2·77	+ 0·75	−0·90	−0·11	+1·17	− 5·01
	Shahjahanpur .	+0·03	−0·40	−0·50	+0·50	−0·74	−4·17	+1·76	− 1·29	+ 0·52	−1·23	−0·14	+1·16	− 4·50
	Aligarh . .	+0·09	−0·49	−0·26	+0·15	−0·40	−2·20	−5·06	− 2·97	+10·23	−0·48	−0·04	+1·25	− 0·18
	Muttra . .	−0·36	−0·30	−0·25	+0·13	+1·46	−1·49	−5·58	−2·81	+ 2·07	−0·12	−0·06	+0·76	− 6·55
	Agra . .	−0·01	−0·29	−0·25	+0·47	−0·14	−1·65	−5·15	−1·22	+ 3·29	−0·41	−0·06	+1·00	− 4·42
	Etah . .	+0·37	−0·28	+0·33	+0·65	+0·48	−2·07	−4·95	−1·18	+ 4·03	−0·84	−0·05	+1·41	−2·93
	Mainpuri .	+0·39	−0·32	−0·29	+1·18	−0·47	−1·87	−3·01	+2·15	+ 5·22	−0·84	−0·11	+2·04	+ 4·07
	Farrukhabad .	+0·55	−0·34	−0·39	+0·14	−0·35	−0·38	−3·72	−0·79	+ 3·54	−1·01	−0·09	+1·34	− 1·50
	Etawah . .	−0·11	−0·25	−0·40	+0·13	+0·13	−0·53	+0·29	+2·69	+ 3·46	−0·97	−0·09	+2·73	+ 7·08
	Cawnpore .	+0·96	−0·45	−0·25	−0·01	−0·42	−2·12	−5·45	+3·88	− 0·13	−1·27	−0·14	+1·25	− 4·15
	Fatehpur .	+2·31	−0·43	−0·28	−0·05	−0·01	−3·87	−1·64	+2·51	+ 0·69	−1·56	−0·18	+1·82	− 0·69
	Jalaun (Orai) .	+0·02	−0·25	−0·22	+0·20	+1·15	−2·67	−4·57	+1·59	+ 0·56	−0·78	−0·05	+1·41	− 3·61
	Hamirpur .	+0·31	−0·37	−0·23	+0·04	+0·18	−3·66	−2·82	−2·11	+ 1·04	−1·11	−0·18	+2·55	− 6·36
	Banda . .	+0·55	−0·37	−0·29	−0·11	−0·25	−4·38	−2·45	+3·32	− 0·42	−1·08	−0·39	+2·90	− 2·97
	Allahabad .	+4·20	−0·43	−0·41	−0·11	−0·14	−4·88	−3·07	+2·05	+ 0·20	−1·75	−0·26	+1·84	− 3·35
	Basti . .	+3·04	−0·35	−0·31	−0·17	+0·17	−2·76	+4·88	−3·21	+ 5·60	−0·42	−0·06	+0·25	+ 6·66
	Gorakhpur .	+3·22	−0·35	−0·08	+0·11	+0·34	−5·91	−4·95	−5·96	+ 3·99	+2·78	−0·18	+0·52	− 6·47

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCES.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inch.	Inch.	Inch.	Inches.	Inches	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.
NORTH-WESTERN PROVINCES —*concld.*	Azamgarh	+4·33	−0·35	−0·36	−0·14	−0·73	−3·75	+0·13	−5·54	+4·52	+3·04	−0·11	+0·48	+1·52
	Jaunpur	+4·19	−0·24	−0·30	−0·13	−0·65	−2·29	−2·10	−6·93	+8·91	−0·12	−0·16	+0·92	+1·10
	Benares	+0·80	+0·02	−0·34	−0·13	+0·08	−2·42	−3·67	−5·58	+4·30	+4·00	−0·19	+1·98	−1·15
	Mirzapur	+1·65	−0·04	−0·51	−0·13	−0·04	−3·68	−3·45	−3·01	−0·61	+1·91	−0·29	+1·99	−6·24
	Ballia	+4·49	−0·13	−0·23	−0·24	−0·76	+1·08	+2·30	−1·72	+0·23	−2·39	−0·20	+0·40	+2·83
	Dudhi	+1·58	−0·31	−0·29	+0·07	+0·64	−4·32	−3·94	−5·38	+3·14	+4·28	−0·31	+1·19	−3·65
	Robertsganj	+3·01	−0·06	−0·45	−0·19	+0·08	−4·19	−1·74	−6·23	+2·89	+5·41	−0·42	+2·06	+0·17
	Jhansi	+0·41	−0·28	−0·37	+0·06	+0·09	−4·48	−5·20	+8·36	+2·03	−0·69	−0·07	+1·26	+1·12
	Lalitpur	−0·13	−0·27	−0·34	−0·13	−0·48	−4·48	−2·23	+7·97	+3·44	−1·00	−0·19	+0·08	+2·24
OUDH	Kheri	+0·85	−0·13	−0·53	−0·03	+0·70	−4·88	+5·87	−6·46	+1·25	−0·87	−0·17	+0·13	−4·27
	Sitapur	+0·59	−0·41	−0·50	−0·24	−0·94	−4·94	−2·23	−5·40	+9·14	−1·47	−0·17	+0·38	−6·19
	Bahraich	+0·72	+0·21	−0·44	−0·22	−0·94	−4·96	+0·36	−7·51	+7·74	−1·83	−0·13	+0·51	−6·49
	Gonda	+1·15	−0·56	−0·36	+0·14	−0·17	−4·45	−0·03	−5·66	+5·33	−1·06	−0·10	+0·54	−5·23
	Hardoi	+0·59	−0·34	−0·65	−0·16	−0·25	−0·71	+1·50	−1·21	+6·67	−1·29	−0·13	+0·70	+4·72
	Nawabganj (Bara Banki.)	+1·46	−0·36	−0·40	−0·12	−0·30	−4·77	+10·42	−2·12	−1·18	−1·13	−0·08	+0·29	+1·71
	Lucknow	+1·63	−0·47	−0·34	+0·05	−0·33	−2·99	−3·20	−2·81	+2·80	−1·39	−0·09	+0·80	−6·14
	Unao	+1·77	+0·33	−0·31	+0·05	−0·56	−4·30	−1·21	+8·16	+4·07	−1·48	−0·10	+1·13	+6·89
	Fyzabad	+2·17	−0·32	−0·53	+0·13	−0·85	−3·69	+2·23	−5·38	+3·71	−0·62	−0·09	+0·71	−2·53
	Sultanpur	+2·97	−0·41	−0·24	−0·20	+0·06	−4·09	−3·48	−2·57	+2·31	−1·86	−0·17	+0·38	−7·30
	Rae Bareli	+1·65	−0·43	−0·26	+0·12	+0·53	−4·83	−3·29	−1·88	−0·66	−0·96	−0·12	+1·02	−9·11
	Partabgarh	+2·27	−0·33	−0·24	−0·04	+0·38	−3·75	+2·86	+0·28	+3·82	−2·04	−0·24	+1·02	+3·99
BENGAL	Motihari	+2·91	−0·20	−0·42	−0·58	−1·59	+0·36	−0·99	−5·81	+4·99	−1·15	−0·13	+0·38	−2·23
	Darbhanga	+0·70	−0·40	−0·30	−0·59	−2·19	+4·71	−0·15	−8·45	+3·27	−1·84	−0·08	0	−5·32
	Siwan	+2·60	−0·17	−0·21	−0·16	−0·82	−1·94	−2·08	−6·96	−1·31	−2·20	−0·19	+0·24	−13·20
	Buxar	+2·25	−0·12	−0·30	−0·11	−0·47	−1·19	−1·09	−5·35	+1·81	−1·46	−0·43	+0·79	−5·67
	Chapra	+2·87	−0·20	−0·41	−0·31	−0·66	+2·02	−1·54	−3·06	+2·39	−1·78	−0·27	+0·26	−0·69
	Arrah	+3·79	−0·50	−0·49	−0·46	−0·18	−3·08	+4·09	−1·16	−0·21	−1·42	−0·24	+0·78	+0·77
	Patna (Bankipore)	+2·82	−0·28	−0·36	−0·28	+0·27	+0·61	+3·55	+0·31	+0·72	−1·86	−0·22	+0·09	+5·37
	Muzaffarpur	+0·76	−0·46	−0·41	−0·45	−0·76	+2·54	+2·29	−6·76	+0·33	−0·82	−0·13	+0·10	−3·77
	Barh	+3·30	−0·30	−0·34	−0·15	−1·32	+8·20	−6·21	−5·95	+0·19	−0·71	−0·21	+0·16	−1·44
	Sasaram	+1·44	+0·10	−0·38	−0·13	−0·01	+0·17	−2·28	−3·07	+3·10	−0·08	−0·31	+1·06	+0·61
	Gaya	+1·39	+0·46	−0·45	+0·27	+0·49	+0·96	−7·32	−2·87	+2·21	−0·49	−0·22	+0·56	−5·08
	Jamui	+1·29	+0·15	−0·39	+0·09	−0·30	+3·85	+1·28	−4·15	+1·14	−0·50	−0·10	+0·12	+2·48
	Madhipura	+0·44	−0·27	−0·41	−0·57	−0·11	+6·96	+1·58	−4·96	+5·65	−1·22	−0·06	+0·03	+7·06
	Monghyr	+1·74	−0·32	−0·45	+0·12	−0·57	+4·82	+0·83	−2·17	−1·07	−0·02	−0·21	−0·08	+2·62
	Bhagalpur	+1·86	−0·28	−0·38	−0·50	+0·12	+10·67	+4·92	+2·30	+2·28	+1·72	−0·19	−0·01	+22·51

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BENGAL—*contd.*	Godda	+1·23	+0·10	—0·51	—0·28	+0·68	+7·28	—2·16	—0·32	+1·77	+0·79	—0·29	—0·10	+8·19
	Palamau	+2·90	—0·43	—0·67	+0·73	—0·53	—0·90	—5·97	—0·51	+1·54	—0·87	—0·40	+1·30	—3·81
	Hazaribagh	+2·91	—0·24	—0·71	+1·62	—0·18	+0·01	—8·30	+2·80	+4·50	+0·09	—0·34	+0·86	+3·02
	Ranchi	+1·12	—0·44	—1·18	+3·58	—0·40	+2·06	—5·22	+2·82	+8·57	—2·29	—0·35	+0·20	+8·47
	Lohardaga	+2·50	+0·01	—0·95	+2·24	—0·43	—0·23	—4·98	+0·56	+8·21	+0·15	—0·60	+0·10	+6·58
	Naya Dumka	+1·06	—0·43	—0·83	+0·25	+1·64	—2·21	+1·54	—2·73	+5·23	—2·40	—0·36	—0·18	+0·58
	Gobindpur	+0·98	—0·49	—0·61	+1·36	—0·05	+1·25	—3·35	—2·90	+7·04	—1·21	—0·20	—0·04	+1·78
	Purulia	+0·27	+0·20	—0·44	+3·50	+1·08	—4·37	—8·04	—0·87	+8·33	—2·25	—0·27	+0·17	—2·79
	Sirguja	+2·33	—0·76	—0·86	—0·06	—0·53	—5·34	—0·64	—1·61	+19·55	+5·47	—0·65	+2·13	+19·03
	Jushpore	+2·66	—0·89	—1·65	+4·43	—0·28	—4·52	0	+4·03	+13·85	+4·93	—0·52	+1·24	+23·28
	Gangpur	+1·88	—0·90	—0·97	—0·59	+0·52	+5·87	+1·94	+12·29	+10·65	+9·70	—0·84	+1·51	+40·97
	Chaibassa	—0·25	—0·94	—0·96	+3·12	+0·31	—3·65	—5·28	+3·55	+9·94	—1·06	—0·45	—0·01	+4·32
	Barreepudda	—0·15	+0·26	+1·26	+1·88	+1·26	—6·24	—4·64	+7·03	+11·05	—0·42	—0·99	—0·13	+10·17
	Keonjhar	+0·43	—0·45	+0·10	+1·39	—0·17	+6·31	—2·57	+12·61	+6·95	+2·34	—0·97	+0·76	+26·73
	Jellasore	—0·42	—0·60	+0·37	+3·36	+1·88	—2·91	—7·62	+13·62	+4·76?	—1·62	—0·76	—0·11	+9·95?
	Balasore	—0·48	+0·90	+2·01	—1·25	+1·51	—0·90	—0·78	+7·11	+7·87	—2·42	—1·29	—0·20	+12·08
	Bhadrak	—0·35	—0·44	—0·92	+0·59	—0·39	—1·52	+0·55	+4·32	+6·81?	+2·00	—1·40	—0·27	+8·98?
	Talcher	+0·02	—0·90	—0·98	+1·82	—0·16	+1·35	+2·84	+4·79	—1·22	+5·64	—1·29	—0·22	+11·69
	Narsinghpur	—0·23	—0·19	—0·71	+1·15	—0·08	—6·41	+0·92	+9·12	—2·48	—3·79?	—1·52	—0·07	—4·29?
	Angul	+0·10	—0·83	—1·22	—0·14	+1·35	—3·82	—6·18	+0·32	+4·50	—0·25	—1·51	—0·39	—8·07
	Dhenkanal	—0·30	—0·69	—0·89	+0·59	+2·59	—4·34	—6·51	+5·10	+12·51	+7·55	—1·34	—0·30	+13·97
	Bispara	—0·08	—0·27	—0·27	+2·25	+0·28	+3·02	—7·12	+7·63	+0·15	+0·37	—1·16	—0·30	+4·50
	Kunjabangar	—0·23	—0·24	—0·61	+0·09	—1·78	—0·50	—2·88	+1·60	+0·12	+3·37	—1·37	—0·13	—2·58
	Banki (Charchika)	—0·22	—0·14	+0·55	+1·84	+0·05	—1·89	—3·81	+3·60	+14·38	+6·23	—1·75	—0·44	+18·40
	Cuttack	—0·36	—0·52	—0·19	+1·52	—0·83	—7·17	—4·29	+9·01	+11·91	+2·58	—1·44	—0·38	+9·84
	Baramba	—0·26	—0·43	+1·46	+0·94	—1·20	—1·50	—1·22	+4·84	+0·53	—0·74	—1·50	—0·03	+0·89
	False Point	—0·55	—0·68	—0·91	—1·40	—2·28	—3·94	+3·16	+9·17	+6·81	—1·89	—2·96	—0·48	+3·85
	Puri	—0·27	—0·99	—0·09	+0·74	+1·70	—0·74	—2·71	+12·05	+4·15	—1·41	—2·73	—0·60	+9·10
	Darjeeling	+0·19	—0·66	—0·11	—0·72	—2·95	+5·57	+1·47	—8·16	—2·60	—5·14	—0·23	+0·14	—13·20
	Gantak	+0·95	—0·87	+4·30	—3·72	—14·95	—8·75	+6·04	+2·46	—6·98	—5·93	—0·92	—0·23	—2·38
	Mongpoo	+0·02	—0·54	+2·06	—3·02	—1·19	+6·78	+2·54	—1·66	+2·44	—3·78	—0·17	+0·05	+3·54
	Pedong	—0·27	—0·81	—0·56	—1·65	—3·11	+2·40	+1·27	—5·34	—4·67	—3·11	—0·32	—0·11	—16·28
	Buxa	—1·04	—0·43	—1·03	+0·56	—10·10	—17·97	+7·63	—15·93	—23·66	—7·01	—0·64	+2·46	—67·16
	Jalpaiguri	—0·50	—0·31	—0·77	—3·63	+5·67	—3·99	+4·42	—13·56	—6·06	—4·82	—0·16	—0·08	—23·79
	Cooch Behar	—0·47	—0·28	+0·97	—0·85	—0·08	—12·81	+1·43	—16·00	—6·72	—4·08	—0·15	—0·07	—29·11
	Kishanganj	—0·33	+0·96	—0·48	—1·76	+2·13	+1·08	+10·30	—10·26	+12·65	+0·89	—0·05	—0·11	+15·02

TABLE XXXIII.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
Bengal—*contd.*	Purnea	−0·02	+0·41	−0·30	−1·35	−1·42	+13·08	+6·11	−7·95	+8·26	−2·11	−0·08	0	+14·63
	Rangpur	−0·51	+0·33	−0·85	−3·02	−2·38	+4·93	+6·66	−7·67	−5·31	−3·01	−0·26	−0·09	−11·18
	Dinajpur	−0·19	+1·28	−0·61	−2·03	+0·45	+8·09	+5·78	+1·45	+2·36	−3·87	−0·18	+0·10	+12·63
	Malda	+0·42	−0·35	−0·86	−0·09	−1·50	+3·00	+0·25	−1·73	+2·27	−3·33	−0·22	−0·27	−2·41
	Bogra	+0·22	−0·09	−0·93	+0·57	−6·01	+6·09	+4·16	−3·59	−6·94	−1·47	−0·91	−0·09	−8·99
	Rampur Boalia	+0·51	+0·09	−1·10	−0·88	−2·99	−1·25	+1·85	−0·26	+4·15	−1·83	−0·34	−0·07	−2·12
	Pubna	−0·21	+0·16	−1·11	+1·19	−3·15	+3·11	+2·41	−5·37	+5·36	−3·60	−0·66	−0·08	−1·95
	Suri	+0·11	−0·61	−0·80	+1·18	+2·23	−4·99	−3·12	−2·31	+9·58	−2·28	−0·36	−0·13	−1·50
	Bankura	−0·18	+0·24	−1·27	+3·25	+1·77	−4·38	−8·00	−0·94	+10·11	−3·94	−0·55	+0·03	−3·86
	Burdwan	−0·28	+1·97	−1·13	+1·34	+0·34	−1·88	−4·47	−2·58	+9·34	−3·84	−0·71	+0·07	−1·83
	Hooghly	−0·32	−0·74	−1·12	+0·58	−1·07	−0·65	−6·78	+4·48	+24·29	−3·32	−0·73	+0·26	+14·88
	Howrah	−0·46	−0·42	−1·43	+1·43	−1·47	−1·93	−5·16	+4·22	+33·62	−3·11	−0·56	−0·09	+24·64
	Midnapur	−0·55	−0·64	+0·39	+0·35	+0·45	−3·79	+3·99	+2·66	+14·04	−2·70	−0·63	+0·40	+13·97
	Tamluk	−0·29	+0·72	−1·25	+1·28	+4·74	−1·16	−8·81	−2·10	+17·44	−1·89	−0·52	−0·16	+8·00
	Berhampur	+0·5	+0·44	−0·58	−0·01	−3·00	−2·93	+6·33	−1·10	+12·46	−4·21	−0·44	−0·10	+7·38
	Krishnagar	−0·36	+0·12	−0·91	+1·11	−1·79	−4·86	−1·51	−0·53	+21·90	−3·62	−0·[illegible]	−0·11	+8·63
	Faridpur	−0·37	+1·09	−1·16	−1·70	−0·25	−1·85	+2·02	−0·24	+4·57	+0·23	−0·83	−0·09	+1·42
	Jessore	−0·48	+5·04	−0·43	−2·19	−0·56	+2·51	−1·20	−1·44	+13·29	+0·71	−1·26	−0·01	+13·98
	Basirhat	−0·33	+0·01	−1·72	−1·14	−2·81	+1·44	−1·53	+3·95	+28·49	−3·14	−0·58	−0·16	+22·48
	Khulna	−0·47	+1·76	−1·75	−0·47	+0·81	+0·22	+2·10	−0·96	+11·43	−2·94	−0·83	−0·23	+8·67
	Barisal	−0·56	−0·73	−2·00	−0·01	−4·50	+2·09	+3·65	+1·49	+14·37	−1·80	−1·07	−0·32	+10·61
	Alipore (Obsy.)	−0·32	−0·36	−1·18	+1·27	−1·46	−0·74	−3·27	+3·78	+36·49	−2·88	−0·74	−0·32	+30·27
	Saugor Island	−0·28	−0·68	−0·86	+0·16	+0·16	+3·68	+0·99	+0·42	+18·03	−2·36	−1·48	−0·17	−17·64
	Mymensing	+0·02	+0·71	+8·66	+0·66	−3·94	+8·91	+23·17	−6·34	−3·12	−3·46	−0·84	−0·09	+16·34
	Kishorganj	−0·45	+1·44	+0·81	+3·29	−5·92	+0·30	+14·12	−6·47	−1·56	−2·22	−0·75	−0·23	+2·36
	Atia (Tangail)	−0·27	−0·46	−0·75	+1·36	−4·13	−0·39	−0·78	−5·50	−3·41	−2·19	−0·55	−0·09	−17·16
	Dacca	−0·32	+0·87	−0·44	−2·94	+5·71	−3·35	+3·48	−4·25	−3·49	−3·90	−0·82	−0·19	−21·06
	Comilla	−0·52	+1·13	−0·09	−1·82	−5·24	+2·63	+6·44	−6·10	−6·04	−2·37	−1·29	+0·24	−13·51
	Agartalla	−0·62	+8·34	+2·40	−2·15	−5·89	+3·81	+7·99	−9·33	−4·37	−3·50	−1·45	−0·34	−5·02
	Noakhali	−0·48	−0·18	+1·20	−1·01	−0·96	+11·38	+5·60	−1·38	−3·94	−2·83	−1·02	−0·39	+5·99
	Demagiri	−0·47	+1·90	+1·83	−1·86	−5·43	−0·74	−2·57	−10·17	−4·58	−4·32	−1·36	−0·40	−28·17
	Rangamatia Hills	−0·48	+1·49	−2·51	−1·03	−0·98	−1·47	−6·90	−5·97	−3·98	−4·22	−1·66	−0·54	−28·25
	Chittagong	−0·44	−0·51	−1·85	−1·99	−3·26	+8·07	−3·40	−8·89	−9·63	−4·52	−1·57	−0·62	−28·59
	Cox's Bazar	−0·54	+0·63	−1·61	−0·26	−4·20	+12·09	−4·85	−5·59	+5·07	−6·98	−2·13	−0·33	−11·72
Assam	Sylhet	−0·33	−1·08	+9·96	+0·55	−4·36	−13·25	+0·70	−10·74	−5·74	−6·43	−1·23	−0·27	−32·22
	Silchar	−0·06	−0·99	+4·10	+11·76	−6·13	−1·75	+0·34	−5·89	−8·17	−5·94	−1·37	−0·45	−14·55

TABLE XXV—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Assam—*concld.*	Cherra Poonjee	−0·70	+3·59	+18·89	+32·80	−10·90	−5·99	+13·32	−38·11	−28·18	−1·51	−1·69	−0·26	−18·74
	Tura	−0·32	−0·06	+6·66	−0·07	−5·54	+0·22	+23·00	−12·58	−9·79	−4·30	−0·46	−0·13	−9·37
	Shillong	−0·33	−0·33	−0·45	−1·06	+2·82	+0·40	+2·16	−4·87	−6·82	+1·67	−0·56	−0·27	−7·74
	Dhubri	−0·40	+0·46	+2·40	−1·28	+7·01	−6·54	+6·23	−8·74	−8·96	−1·71	−0·16	−0·15	−12·04
	Goalpara	−0·46	−0·11	+0·61	−0·20	+2·11	−1·60	+0·03	−8·68	−2·48	−3·44	−0·22	−0·22	−14·66
	Kulsi	−0·44	+0·62	+1·04	+1·40	−2·58	+11·65	−2·07	+3·08	−5·71	−2·97	−0·28	+0·33	+4·07
	Gauhati	−0·61	−0·05	+1·75	−0·88	−2·18	−1·07	−2·53	−3·88	−2·97	−1·64	−0·36	−0·15	−14·57
	Nowgong	−0·73	−0·17	+1·36	+2·73	−4·03	−2·07	−0·41	−5·56	−6·46	−2·92	−0·33	−0·08	−18·67
	Tezpur	−0·61	+0·92	+2·65	+1·86	−2·29	+0·46	−1·73	−2·40	−1·29	−2·36	−0·72	−0·32	−5·837
	Charduer	−0·73	−0·36	+0·71	−1·36	−3·89	−3·74	−1·28	−9·09	−7·60	−1·32	+0·43	−0·84	−29·07
	Sibsagar	−0·12	−1·29	−0·03	+2·55	−1·13	+2·58	−3·34	−4·66	−2·05	+1·73	+0·58	+0·38	−4·80
	Dibrugarh	+0·13	+0·44	−1·20	+3·08	+2·22	−5·02	−5·55	−10·96	−8·07	−1·19	+0·46	−0·06	−25·72
	Kohima	−0·41	−0·36	+0·74	+2·70	−3·54	−5·38	−2·65	−8·50	−3·57	−0·14	−1·27	−0·21	−22·59
Central Provinces.	Saugor	−0·16	−0·52	−0·24	−0·07	−0·45	−4·95	−3·52	+6·92	−0·55	−1·27	−0·36	+0·31	−4·66
	Damoh	+0·27	−0·54	−0·22	−0·21	−0·13	−5·48	−4·95	+16·35	+1·33	−1·63	−0·34	+2·00	+6·45
	Jubbulpore	+1·63	−0·49	−0·52	+0·40	−0·38	−8·14	−4·64	+5·87	+3·93	−0·88	−0·40	+0·66	+1·04
	Narsinghpur	+1·29	−0·40	−0·29	+0·02	−0·33	−7·13	0	+2·41	−0·23	−1·57	−0·27	+1·15	−5·35
	Hoshangabad	+0·03	−0·21	−0·23	−0·03	−0·56	−5·38	+2·89	+3·84	−1·75	−1·44	−0·43	+0·11	−3·16
	Khandwa	−0·06	−0·22	−0·10	−0·13	−0·27	−4·17	+1·35	+3·93	+7·09	−1·18	−0·17	−0·42	+5·65
	Badnur (Betul)	−0·20	−0·14	−0·61	−0·29	−0·40	−5·96	+1·94	+9·70	+7·90	−1·91	−0·42	+0·03	+9·64
	Pachmarhi	+0·18	−0·36	−0·37	−0·05	−0·52	−8·65	−6·41	+10·64	+19·78	−2·07	−0·47	+0·59	+12·29
	Chhindwara	−0·30	−0·26	−0·49	+1·97	−0·47	−6·11	+3·20	+3·67	+3·39	−2·08	−0·46	+0·40	−3·94
	Seoni	−0·13	−0·44	−0·51	−0·15	−0·41	−6·11	−4·44	−1·11	+6·11	−2·15	−0·47	−0·08	−9·89
	Balaghat	+0·61	+0·45	−0·41	0	−0·17	−8·71	−0·89	−3·33	+6·66	−2·11	−0·58	−0·25	−8·70
	Mandla	+2·34	−0·60	−0·80	−0·26	−0·46	−7·84	−6·80	+6·22	+6·32	−1·10	−0·31	+0·46	−2·83
	Bilaspur	+0·45	−0·28	−0·72	−0·04	−0·44	−5·59	+1·59	+7·24	+8·70	+2·62	−0·64	+0·12	+13·01
	Sarangarh	+0·53	+0·22	−0·72	+1·01	+0·72	−1·44	−7·35	+4·40	+8·41	+0·22	−0·79	−0·16	+5·05
	Raigarh	+0·96	−0·39	−0·39	+0·25	+0·34	−5·18	−5·65	−5·21	+5·45	−1·59	−0·68	+0·21	−11·88
	Sambalpur	−0·18	−0·44	−0·79	+0·44	−0·32	−1·66	−5·20	+6·94	+12·40	−1·22	−0·47	−0·27	+9·23
	Raipur	+0·26	+0·34	−0·32	−0·19	+0·15	−0·53	−4·02	−2·62	+11·50	+4·10	−0·69	−0·22	+7·76
	Dhamtari	+0·21	+0·88	−0·06	+1·14	−0·12	−1·28	−4·03	+8·99	+21·60	−0·27	−0·41	−0·13	+25·52
	Bhandara	−0·70	+1·76	0	+0·22	−0·79	−6·82	+3·29	+0·59	+8·11	−1·84	−0·77	−0·36	+2·69
	Nagpur	−0·61	+0·09	−0·61	−0·33	−0·57	−6·05	+0·76	+11·05	+3·04	−2·29	−0·55	−0·46	+3·47
	Arvi	−0·55	−0·26	−0·51	−0·18	−0·63	−3·59	−4·77	+8·01	+3·74	−2·51	−0·40	−0·42	−2·07
	Wardha	−0·30	−0·31	−0·32	0	−0·96	−4·47	−1·36	+5·36	+4·35	−2·33	−0·63	−0·38	−1·06
	Brahmapuri	−0·05	−0·20	−0·95	+0·02	−0·55	−3·51	+2·04	+14·13	+17·90	−2·20	−0·62	−0·41	+25·60

TABLE XXV—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
Central Provinces—*concld.*	Chanda	−0·16	−0·61	−1·24	−0·11	−1·48	−4·02	+2·28	+ 6·30	+ 9·95	−2·22	−0·82	−0·33	+7·54
	Sironcha	−0·09	−0·32	−0·63	−0·30	−1·50	−2·10	+0·70	+ 8·56	+20·24	−1·06	−0·45	−0·26	+16·79
	Baster (Jagadalpore)	−0·11	+6·05	+0·54	−0·75	−0·61	−2·57	−3·33	+ 0·18	+ 7·44	−1·03	−0·64	−0·23	− 1·06
	Chikalda	−0·34	−0·27	−0·52	−0·20	−0·60	−5·62	+2·30	+ 8·55	+11·57	−4·34	−0·74	−0·83	+ 8·96
Berar	Ellichpur	−0·33	−0·23	−0·40	−0·02	−0·35	−1·14	−1·80	+ 4·85	+ 3·00	−2·52	−0·62	−0·41	+ 0·03
	Amraoti	−0·43	−0·21	−0·31	−0·17	−0·65	−4·20	−2·99	+ 3·83	+ 4·33	−1·87	−0·40	−0·45	− 0·45
	Akola	−0·46	−0·19	−0·48	−0·13	−0·31	+0·52	−1·87	+13·14	+ 2·19	−2·36	−0·49	−0·65	+ 8·91
	Buldana	−0·44	−0·24	−0·27	−0·26	−0·53	−2·85	+0·05	− 0·94	+ 0·05	−2·32	−0·53	−0·50	− 8·78
	Basim	−0·28	−0·21	−0·28	+0·60	−0·49	+0·13	+3·68	+ 3·26	− 2·27	−2·13	−0·85	−0·50	+ 0·66
	Yeotmal	−0·14	−0·17	−0·48	+1·63	−0·80	−3·92	+0·04	+ 2·51	+ 1·79	−2·59	−0·63	−0·43	− 3·19
	Wun	−0·33	−0·18	−0·86	+0·42	−0·42	−4·86	+1·05	+ 3·65	+ 3·20	−1·78	−0·82	−0·33	− 1·26
Bombay	Dhulia	−0·30	−0·06	−0·04	−0·06	−0·31	− 4·83	− 2·31	+ 2·97	− 1·37	−1·78	−0·69	−0·35	− 9·13
	Nasik	−0·08	−0·04	−0·04	+1·23	−0·66	− 2·76	+ 1·49	+ 5·47	+ 3·24	−3·74	−0·53	−0·24	+ 3·34
	Igatpuri	−0·16	−0·08	−0·03	−0·07	−0·98	−12·97	−13·30	+32·01	+27·63	−4·51	−0·43	−0·19	+26·92
	Malegaon	−0·22	−0·12	−0·04	−0·15	−0·74	− 2·73	− 0·62	− 0·79	− 7·81	−2·30	−0·49	−0·39	−11·30
	Ahmednagar	−0·30	−0·14	−0·16	−0·40	−1·25	+ 1·36	+ 2·12	− 1·13	− 3·02	−3·33	−0·97	−0·48	− 7·70
	Poona	−0·20	−0·05	−0·13	−0·58	−1·55	− 4·12	+ 4·68	+ 5·33	− 1·76	−1·83	−0·90	−0·22	− 1·33
	Lonavla	−0·07	−0·05	−0·07	−0·07	−0·76	−16·73	− 3·84	+67·29	+28·75	−4·22	−0·85	−0·18	+69·20
	Satara	−0·30	−0·10	−0·01	+1·02	−1·52	− 3·05	+ 0·86	+11·57	− 3·28	−2·06	−0·86	−0·45	+ 1·92
	Mahabaleshvar	−0·34	−0·04	−0·24	−0·87	−1·39	−22·82	− 8·48	+86·37	+19·16	−4·78	−1·26	−0·34	+64·97
	Sholapur	−0·07	−0·08	+0·37	−0·27	−1·03	+ 1·93	− 0·23	− 4·35	− 3·43	−2·10	−0·89	−0·33	−10·48
	Kolhapur	+0·02	−0·08	+0·34	−0·25	−1·51	− 1·48	+ 3·80	+ 7·26	− 2·98	−3·06	−0·91	−0·21	+ 0·94
	Belgaum	−0·07	−0·03	−0·48	−0·34	−1·32	+ 2·01	+ 6·38	+14·48	− 2·85	−3·09	−1·46	−0·26	+12·98
	Gokak	−0·07	−0·01	+0·83	−0·21	−0·79	+ 3·37	+ 0·36	+ 1·44	− 3·07	−4·13	−1·06	−0·64	− 3·98
	Dharwar	−0·13	−0·02	−0·30	+1·21	+2·18	+ 1·31	+ 0·51	+ 2·44	− 2·20	−4·77	−1·89	−0·41	− 2·07
	Hubli	−0·03	−0·02	−0·34	+0·60	−1·94	− 1·23	− 0·65	+ 0·33	− 2·89	−3·56	−1·11	−0·22	−11·06
	Nargund	−0·19	−0·09	−0·26	+4·23	−2·28	+ 1·07	+ 0·10	+ 1·90	− 0·69	−4·26	−0·94	−0·29	− 1·79
	Mundargi	−0·22	0	+0·16	−0·17	−0·28	+ 1·25	− 0·96	− 1·09	− 0·86	−0·39	−1·40	−0·10	− 4·06
	Kaighatgi	+0·81	0	−0·35	−0·03	−0·16	− 0·24	− 1·27	+ 2·45	− 1·00	−4·17	−0·93	−0·21	− 5·10
	Bijapur	−0·06	−0·05	−0·16	+0·44	−0·51	+ 0·55	+ 2·07	− 3·07	− 5·07	−3·52	−0·94	−0·63	−10·95
	Honavar	−0·18	0	−0·11	−0·32	−3·59	+15·02	+10·01	− 4·55	+ 2·81	−6·32	−1·24	−0·13	+11·42
	Karwar	−0·13	0	−0·04	−0·32	−3·29	+19·51	+12·86	− 0·76	− 3·10	−5·08	−1·36	−0·12	+17·97
	Goa	+0·89	0	−0·02	−0·22	−1·62	+ 0·39	− 0·05	− 3·70	− 2·64	−4·78	−1·08	−0·09	−12·92
	Vengurla	−0·21	0	−0·06	−0·14	−2·17	+ 0·04	+10·37	− 2·53	− 2·42	−4·58	−0·94	−0·17	− 2·39
	Ratnagiri	−0·69	−0·01	+1·24	−0·14	−1·38	+ 5·09	− 5·94	− 1·15	+ 0·71	−3·45	−0·71	−0·07	− 6·50
	Colaba (Obsy.)	−0·13	−0·02	−0·01	−0·03	−0·59	− 3·23	− 4·81	+ 8·71	− 2·84	−1·81	−0·50	−0·05	− 5·31

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
BOMBAY—*contd.*	Byculla (J. J. Hospital.)	—0·17	—0·01	—0·01	0	—0·43	— 6·08	— 7·27	+ 9·06	— 2·53	—2·54	—0·21	—0·04	—10·23
	Thana . .	—0·20	—0·05	—0·06	0	—0·38	—17·89	—12·43	+17·25	+ 6·49	—2·95	—0·25	—0·05	—10·52
	Matheran .	—0·09	—0·01	—0·01	—0·02	—0·79	—23·36	— 3·86	+44·63	+10·89	—4·92	—1·00	—0·05	+21·41
	Surat . .	—0·04	—0·02	0	—0·01	—0·06	— 9·58	— 2·88	+ 9·05	— 3·92	—1·73	—0·17	—0·03	— 9·39
	Broach . .	—0·05	—0·02	—0·02	—0·01	—0·13	— 7·76	—11·68	+11·98	+ 1·40	—1·62	—0·18	—·004	— 8·13
	Kaira . .	—0·03	—0·15	—0·02	+0·15	—0·13	— 4·62	—12·57	+ 7·54	— 2·25	—0·57	—0·35	0	—13·00
	Bariya . .	—0·05	—0·23	0	+0·78	—0·13	— 5·05	— 9·95	+ 3·36	— 3·18	—0·99	—0·19	—0·11	—15·74
	Godhra . .	—0·04	—0·13	—0·01	+0·51	—0·42	— 5·01	—10·72	+ 4·65	+ 2·60	—1·02	—0·16	—0·09	— 9·84
	Dohad . .	—0·07	—0·17	—0·01	+0·07	—0·50	— 3·46	— 4·96	+ 7·96	— 3·46	—1·19	—0·19	—0·14	— 6·12
	Ahmedabad .	—0·03	—0·08	—0·01	+0·43	—0·42	— 4·01	— 7·17	— 0·61	— 0·81	—0·62	—0·21	0	—13·54
	Idar . .	—0·05	—0·14	—0·03	—0·02	—0·20	— 4·83	—12·60	+ 4·01	+ 1·84	—0·29	—0·25	—0·07	—12·63
	Deesa . .	—0·16	—0·15	—0·09	+0·31	—0·12	— 2·46	— 5·64	+12·07	+ 1·07	—0·62	—0·15	—0·03	+ 4·03
	Wadhwan .	—0·05	—0·06	—0·04	+0·14	+0·03	—2·47	—6·17	+ 3·83	—0·40	—0·49	—0·53	—0·03	— 6.24
	Palanpur .	—0·12	—0·20	—0·07	+1·57	—0·28	—3·14	—7·24	+ 7·51	+1·57	—0·49	+0·07	—0·09	— 0·91
	Rajkot . .	—0·05	—0·10	—0·01	—0·01	—0·31	—5·53	—5·99	+25·95	—1·61	—0·70	—0·37	—0·06	+11·21
	Songad . .	—0·04	—0·08	—0·06	—0·04	+0·16	—3·60	—3·67	+12·01	—1·72	—1·75	—0·25	—0·03	+ 0·93
	Jetalsar . .	—0·05	—0·12	0	0	+0·21	—7·92	—3·73	+27·53	+0·85	—1·07	—0·94	—0·01	—14·75
HYDERABAD.	Aurangabad (Cantt.)	—0·05	—0·11	—0·08	—0·13	—0·78	+0·78	—2·05	— 3·41	—2·37	—2·64	—1·15	—0·70	—12·71
	Hingoli . .	—0·23	—0·27	+0·05	+0·39	—0·65	—0·82	+6·45	+ 5·72	—4·11	—2·57	—1·00	—0·43	+ 2·53
	Parbhani . .	—0·07	—0·06	—0·26	—0·18	—0·59	—0·51	+5·10	— 2·81	—2·51	—2·73	—0·74	—0·27	— 5·63
	Nanded . .	—0·03	—0·24	—0·41	+0·26	—0·72	—4·24	+5·76	— 2·86	—2·17	—3·01	—0·81	—0·63	— 9·10
	Bheer . .	—0·12	—0·05	+0·01	—0·16	—0·58	+3·19	—2·17	— 4·05	—3·38	—2·99	—1·15	—0·65	—12·10
	Mominabad .	—0·21	—0·15	—0·21	+0·01	—0·49	+4·24	+1·29	— 4·79	—4·92	—2·84	—1·42	—0·97	—10·46
	Indur (Indur) .	—0·06	—0·07	—0·58	—0·33	—0·36	—3·92	+9·07	— 1·27	+5·43	—2·30	—0·97	—0·39	+ 4·25
	Karimnagar (Yelgandal).	+0·22	—0·02	+1·17	+0·25	—0·72	—2·24	+2·82	— 0·30	+6·31	—1·63	—0·55	—0·33	+ 4·98
	Kandi (Medak) .	—0·06	—0·17	—0·09	+0·16	+0·46	+5·24	+4·04	— 4·25	+0·61	—1·27	—1·18	—0·20	+ 3·99
	Shumsabad (Ibrahimpatan).	—0·07	—0·13	—0·52	—0·48	—0·81	+0·72	+4·07	— 2·40	—0·63	—2·46	—1·55	—0·18	— 4·44
	Sundanully (Ibrahimpatan).	—0·03	—0·21	—0·60	—0·17	—0·12	—0·48	+1·36	— 4·17	—1·34	—2·56	—1·09	—0·08	— 9·49
	Dharasev (Naldurg).	—0·02	—0·03	+0·67	+0·03	—1·20	+0·64	—0·80	— 2·07	—6·86	—2·68	—0·83	—0·41	—13·56
	Bidar (Bidar) .	—0·02	—0·12	+0·47	+0·95	—0·88	+0·45	+2·94	— 4·62	—0·40	—4·00	—1·52	—0·62	— 7·37
	Gulbarga (Gulbarga).	—0·09	—0·15	—0·32	+0·63	—0·98	+2·26	+3·75	— 3·76	—0·04	—3·32	+1·09	—0·28	— 1·21
	Bolaram . .	—0·12	—0·14	—0·26	+0·22	—0·99	—0·69	+4·39	— 0·92	+2·25	—2·70	—0·94	—0·35	— 0·25
	Secunderabad .	—0·25	—0·21	—0·10	+0·15	—1·19	—0·04	+2·96	— 2·10	—0·60	—1·26	—0·15	—0·23	— 3·02
	Hyderabad (Residency).	—0·11	—0·08	—0·39	+2·11	—0·85	—0·05	+5·58	— 3·06	—0·10	—2·18	—0·99	—0·45	— 0·57
	Zanawada (Hyderabad).	—0·08	—0·49	—0·79	—0·29	—0·75	—1·86	+4·07	— 6·35	—0·67	—2·18	—0·87	—0·01	—16·27
	Bhongir (Nalgunda.	—0·16	—0·08	—0.49	+1·17	—0·83	—1·24	+3·90	— 3·32	+1·74	—2·59	—1·23	—0·13	— 3·26

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
HYDERABAD—*concld.*	Hanumkonda (Warangal).	−0·28	−0·21	−0·95	−0·29	−0·14	−0·37	+5·82	−3·30	+1·48	−0·61	−1·05	0	+ 0·10
	Sirpur Tandur .	+0·11	−0·24	−0·48	+0·15	−0·24	−2·67	−1·70	+2·07	+5·05	−2·37	−1·19	−0·76	− 2·25
	Palmoor (Mahbubnagar).	0	−0·16	−0·89	+1·14	−0·11	+1·13	−1·96	−9·01	−0·60	−2·08	−1·02	0	− 13·56
	Raichur . .	−0·03	−0·06	−0·32	+0·01	−0·43	+1·69	+3·66	−4·37	+0·86	−4·03	−0·97	−0·12	− 4·11
	Raichur (Cantt.)	0	−0·11	−0·45	+0·33	+1·02	+1·33	+0·83	−5·86	+2·40	−3·02	−1·07	−0·17	− 4·77
	Rambha . .	−0·20	−0·76	−0·08	−0·49	+0·36	+5·21	−4·59	+9·87	+0·79	+5·36	−2·31	−0·89	+ 12·27
	Gopalpur . .	−0·15	−0·51	−0·35	−0·61	−0·34	+0·74	−4·04	+1·83	−0·20	+3·90	−4·67	−0·81	− 5·21
	Aska . .	−0·23	−0·60	+0·85	+1·77	+1·27	+0·76	+2·54	+2·02	−2·50	+2·36	−2·22	−0·52	+ 5·50
	Vizianagram .	−0·13	−0·39	−0·56	+0·14	−0·90	+1·01	−2·18	−2·13	+8·14	−6·71	−2·45	−1·16	− 7·32
	Bimlipatam .	−0·22	−0·43	−0·05	+0·58	+0·02	+0·20	+1·52	−0·44	+0·38	−3·30	−0·14	−1·00	− 2·88
	Rayaghadda .	−0·14	−0·28	−0·34	−0·65	−0·37	−0·20	−3·71	−2·15	+5·40	−1·99	−1·61	−0·38	− 6·42
	Nourangapur .	−0·14	−0·08	−0·20	−0·65	−0·25	−3·31	−5·35	+1·12	+5·99	+2·61	−0·71	−0·08	− 1·05
	Gunipore . .	−0·08	−0·20	+0·32	−1·28	+0·77	+1·18	−6·64	−0·16	+5·63	−2·23	−1·93	−0·33	− 4·95
	Jeypore . .	−0·07	+0·99	−0·37	+0·30	−0·94	−6·02	+0·30	−3·54	+4·22	−1·57	−1·30	−0·05	− 8·05
	Koraput . .	−0·10	+0·71	+0·47	+0·10	+0·40	−2·95	−5·40	−0·79	+1·97	−1·06	−1·42	−0·19	− 8·26
	Malkanagiri .	−0·07	−0·14	+1·37	−0·98	−0·39	−4·53	+4·66	−4·57	+4·02	−0·65	−0·51	−0·05	− 11·16
	Narsapatnam .	−0·26	−0·33	−0·43	−0·07	+0·08	−0·85	−0·65	−1·33	+1·99	−4·17	−0·26	−0·82	− 7·10
	Cocanada . .	−0·18	−0·28	−0·26	+1·65	+1·35	−3·16	−2·90	−1·51	−1·68	−4·76	−3·28	−0·77	− 15·78
	Rajahmundry .	−0·16	−0·23	−0·29	+1·96	+3·04	+1·29	+0·21	−1·31	+4·57	−0·79	−2·00	−0·17	+ 6·12
	Ellore . .	−0·17	−0·09	−0·38	+1·19	+0·17	−3·77	+1·27	−2·93	+1·50	−5·48	−2·25	−0·32	− 11·26
MADRAS	Masulipatam .	−0·20	−0·13	−0·27	+4·15	−1·23	−2·90	+5·10	−4·22	+1·24	−4·02	−4·11	−0·59	− 7·18
	Guntur . .	−0·26	−0·15	−0·49	+0·29	+0·23	−1·28	+5·44	−4·49	+3·11	−3·44	−2·03	−0·41	− 3·48
	Vinukonda .	−0·21	−0·02	−0·51	+1·21	−0·96	−0·43	−0·94	−3·67	+0·16	−3·61	−2·83	−0·59	− 12·40
	Ongole . .	−0·22	−0·07	−0·24	+1·80	−1·38	−1·40	+2·17	−3·46	+6·21	−5·23	−4·80	−3·34	− 7·88
	Nellore . .	−0·24	−0·08	−0·20	+2·91	−1·12	+0·58	−0·53	−2·64	+1·42	−2·75	−2·37	−2·43	− 7·45
	Udayagiri .	−0·33	−0·24	−0·49	+0·64	−0·32	+4·08	+1·27	−1·33	−0·79	−4·58	−5·15	−0·82	− 8·56
	Tada . .	−0·33	−0·48	−0·21	+1·46	−1·75	−0·84	+0·85	−3·82	−2·11	−1·25	−3·91	+1·15	− 11·24
	Kurnool . .	−0·05	−0·03	−0·45	−0·24	−1·44	−0·65	+6·50	−3·49	−0·78	−3·29	−0·20	−0·16	− 4·28
	Nandyal . .	−0·08	−0·03	−0·17	+1·38	−0·70	−1·91	−0·06	−5·25	+0·79	−2·56	−0·46	−2·02	− 9·25
	Bellary . .	−0·11	−0·03	−0·26	+1·51	+0·67	−0·78	+1·98	−1·48	+0·71	−1·41	−1·23	−0·22	− 0·65
	Gooty . .	−0·04	−0·05	−0·03	+0·01	−1·06	−1·28	−0·06	−2·75	+3·20	−3·28	−1·00	−0·12	− 6·51
	Adoni . .	−0·04	0	−0·29	−0·04	+3·59	−1·68	+0·32	−3·97	+1·16	−3·88	−0·88	−0·17	− 5·88
	Dharmavaram .	−0·01	−0·11	−0·18	+0·32	−0·18	−1·95	+1·90	−2·29	+5·15	−1·04	−1·96	−0·26	− 0·61
	Cuddapah . .	−0·16	−0·04	−0·19	+0·77	+0·40	−1·30	−0·21	−4·90	+2·52	−3·24	−2·83	+0·33	− 8·85
	Madanapalle .	−0·13	−0·14	−0·35	+0·53	−2·36	−0·21	+4·22	−2·07	−1·18	−4·15	−2·55	+0·05	− 8·34
	Chittoor . .	−0·21	−0·20	−0·34	+0·32	−1·83	+0·07	+1·01	−4·89	+3·49	−2·45	−1·96	−0·83	− 7·72

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches	Inch.	Inches	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
MADRAS—*contd.*	Vellore	0	−0·33	−0·18	+1·45	−1·85	− 0·59	+ 5·68	−2·38	+ 1·25	−2·47	−3·11	−0·88	− 3·41
	Chandragiri	−0·20	−0·23	−0·24	+1·02	−1·37	− 0·54	− 0·88	−0·63	+ 1·81	−3·01	−4·54	−1·33	−10·14
	Arcot	−0 30	−0·45	−0·33	+0·88	−0·46	− 1·21	+ 0·58	−5·44	+ 1·50	−2·22	−3·67	+1·53	− 9·59
	Madras	−0·53	−0·28	−0·39	+2·48	−2·03	− 0·61	− 1·56	−3·14	+ 1·33	−1·76	−10·45	−2·87	−20·21
	Palmaner	+0·07	−0·18	−0·40	+0·33	−2·14	− 2·25	+ 3·49	−3·76	− 1·39	−2·30	−2·98	−0·86	−11·97
	Saidapet	−0·53	−0·19	−0·32	+2·34	−0·73	− 0·97	− 2·68	−3·53	− 2·19	−3·02	−10·55	−3·32	−25·69
	Chingleput	−0·44	−0·31	−0·13	+4·14	−1·50	− 1·08	+ 0·76	−4·84	+ 1·33	+1·16	−8·95	−0·01	− 9·87
	Conjeeveram	−0·39	−0·30	−0·12	+2·79	−0·60	− 1·54	− 0·50	−5·06	− 2·05	+1·62	−6·68	−0·64	−13·47
	Tindivanam	−0·38	−0·47	−0·27	+3·51	−1·98	− 1·71	+ 0·11	−1·29	+ 1·80	+2·24	−3·05	−2·02	− 3·51
	Cuddalore	−0·80	−0·28	−0·38	+2·00	−0·62	− 1·09	+ 0·31	−1·76	+ 7·43	−0·32	−4·74	+1·23	+ 0·98
	Vriddhachalam	−0·23	−0·31	−0·30	+1·04	−0·13	− 1·49	+ 0·48	−2·63	+ 4·39	+0·60	−0·36	−0·87	+ 0·19
	Udayarpalaiyam	−0·55	−0·32	−0·34	+2·81	−0·85	− 1·08	+ 0·87	−0·03	+ 3·34	+0·29	+1·02	+0·14	+ 5·30
	Salem	+0·65	−0·21	−0·87	+2·02	−2·82	− 2·29	+ 4·10	−4·65	+ 7·00	−3·86	−1·65	−0·83	− 3·41
	Atur	−0·23	−0·28	−0·77	+3·58	−1·36	− 1·67	+ 1·54	+ 0·54	+ 2·20	−0·43	−2·99	−0·88	− 0·75
	Shevaroy Hills	+2·28	−0·41	−0·84	+1·73	−2·97	− 1·52	+ 0·33	− 4·01	+15·46	−4·59	−4·06	−1·66	− 0·26
	Kumbakonam	−0·47	−0·47	−0·52	+1·78	−1·64	+ 0·65	+ 0·45	− 2·46	+ 0·73	−3·04	+1·38	+1·12	− 2·49
	Tirupatur	−0·15	−0·33	−0·50	+3·77	−2·24	− 1·17	+ 0·68	+ 1·16	+ 0·04	−3·51	−0·25	+0·88	− 1·62
	Hosur	+0·04	−0·26	−0·49	+1·68	−2·89	− 0·31	+ 3·71	− 2·55	+ 2·46	−1·40	−2·68	+1·44	− 1·25
	Tranqueber	−0·10	−0·43	−0·13	+0·90	−0·60	− 1·25	+ 1·88	− 0·63	+ 8·43	−4·00	−2·04	+3·76	+ 5·79
	Negapatam	−0·71	−0·70	−0·35	+3·12	−0·51	− 1·16	+ 2·91	+ 2·12	− 0·12	−1·05	+4·51	+2·57	+10·63
	Tanjore	−0·28	−0·40	−0·46	+2·73	−0·45	− 1·38	+ 0·69	− 3·66	+ 2·09	−2·21	−0·20	−0·41	− 3·94
	Patukota	−0·52	−0·64	−0·15	+6·36	+0·32	− 1·69	+ 4·33	− 4·58	+ 1·90	+0·19	+0·97	−0·64	+ 15·85
	Trichinopoly	−0·61	−0·57	−0·62	+3·69	−0·21	+ 0·56	− 0·15	− 1·74	− 0·16	−3·69	−0·26	+0·05	− 3·71
	Karur	−0·12	−0·11	−0·33	+1·95	−1·60	− 1·15	− 0·66	− 2·27	+ 1·51	−1·22	−2·07	−0·31	− 6·38
	Coimbatore	+5·51	−0·26	−0·58	+1·21	−0·76	+ 0·50	+ 0·07	+ 0·82	+ 0·48	+3·89	−1·20	−0·15	+ 9·53
	Kollegal	+0·56	−0·11	−0·93	+0·58	−1·71	− 0·52	+ 0·48	− 3·23	+ 4·69	−1·34	−2·55	−0·35	− 4·43
	Dindigul	−0·04	−0·42	−0·57	+2·91	−1·59	− 1·72	+ 0·75	− 1·08	− 0·62	−2·35	−2·08	+0·96	− 5·85
	Madura (Obsy.)	−0·33	−0·39	−0·70	+3·46	+2·40	− 1·31	− 0·27	+ 1·49	− 0·99	−2·88	−2·48	−0·76	− 2·76
	Vattanum	−0·08	−0·86	−0·61	+2·41	−1·10	− 0·86	+ 0·39	− 0·85	+ 0·76	+0·25	−3·53	−0·72	− 4·80
	Periyakulam	+1·30	−0·68	−1·80	+1·56	+0·68	− 0·04	+ 1·68	− 0·42	− 0·34	−0·79	−0·05	+0·11	+ 1·21
	Tinnevelly	−0·60	−0·42	−1·39	+0·05	+0·22	− 0·33	− 0·29	− 0·49	− 0·39	−0·43	+0·70	−1·10	− 4·47
	Tuticorin	+2·21	+0·53	−0·88	−1·41	+2·12	− 0·20	− 0·18	− 0·33	+ 0·99	+3·60	+3·03	+1·33	+ 12·81
	Satur	−0·12	−0·66	−1·14	−0·23	+4·79	+ 0·33	− 0·94	− 1·29	+ 1·22	−1·49	+0·38	+0·98	+ 1·83
	Cochin	+0·61	−0·66	−1·27	+9·11	−8·17	− 1·84	− 3·99	− 1·32	− 2·27	−3·76	−1·83	−0·56	−15·95
	Palghat	+0·26	−0·20	−0·84	+2·43	−0·94	+ 7·26	+11·60	+15·28	− 1·16	+7·02	−2·43	−0·67	+37·61
	Wellington	+0·69	−0·68	−2·51	−0·26	−1·94	− 1·34	+ 0·20	+ 0·82	+ 0·49	+4·44	−5·55	−2·04	− 7·68

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
MADRAS—*contd.*	Manantoddy .	+0·52	−0·25	−1·28	+2·11	−3·26	+14·13	+22·29	+34·81	+ 0·20	−1·97	−1·76	−0·52	+65·02
	Calicut . .	−0·18	−0·18	−0·85	+2·81	−4·07	− 1·25	+ 5·25	+ 4·68	+ 1·19	−1·02	−2·54	−0·13	+ 3·71
	Tellicherry .	−0·30	−0·10	−0·44	+1·04	−7·98	+ 1·24	− 7·29	+ 4·98	− 4·03	−4·66	−3·11	+2·23	−18·42
	Cannanore .	−0·36	−0·22	−0·16	−0·08	−6·62	+ 1·63	− 2·40	+ 2·16	− 2·16	−4·18	−3·22	+0·19	−15·42
	Mangalore .	−0·14	−0·07	−0·12	−1·67	−7·23	+ 1·46	+16·87	+ 0·08	+11·59	−6·29	−1·62	+0·22	+13·08
MYSORE AND COORG.	Bangalore .	−0·16	−0·13	−0·56	+0·26	+0·12	− 0·32	+ 0·28	− 3·18	+ 2·20	−0·43	−1·83	−0·09	− 3·84
	Mysore . .	−0·08	−0·15	−0·68	+0·48	−4·33	− 0·23	− 0·30	− 2·67	+ 2·53	+3·19	−1·74	−0·09	− 4·07
	Shimoga . .	−0·06	−0·12	−0·36	+0·82	−0·60	+ 3·59	+ 2·33	+ 4·07	− 0·26	+1·32	−1·40	−0·37	+ 8·96
	Mercara . .	−0·21	−0·06	−1·01	−0·58	−4·89	+15·04	+ 0·82	+19·46	+ 4·94	−3·14	−1·98	−0·46	+27·93
	Kolar . .	−0·18	−0·04	−0·57	+0·50	+1·31	− 2·47	+ 3·55	− 3·23	− 1·00	−1·52	−2·06	+0·33	− 5·38
	Tumkur . .	−0·16	−0·20	−0·36	−0·57	−3·25	− 0·60	+ 5·05	− 1·83	+ 0·20	−0·20	−0·27	−0·39	− 2·58
	Chitaldroog .	−0·19	−0·03	−0·29	+0·05	−2·48	− 0·30	− 0·76	− 0·34	− 1·61	−1·52	−2·25	−0·41	−10·13
	Chikmagalur .	−0·22	−0·18	−0·72	−0·55	−3·70	+ 2·21	+ 0·53	+ 1·96	−0·52	−2·19	−2·19	−0·51	−6·08
	Hassan . .	−0·70	−0·09	−0·51	+1·63	−0·92	+ 1·49	+ 1·98	+ 4·62	+ 0·98	+5·27	−0·78	−0·65	+12·32
CEYLON.	Trincomalee .	−0·62	−2·28	−1·43	+3·43	−1·01	− 1·46	− 1·12	+ 1·02	− 2·16	+1·88	+7·27	−7·82	−4·30
	Colombo . .	+0·63	−1·27	−1·21	+3·65	−1·26	− 0·51	+ 2·28	+ 3·68	−1·01	−5·05	−3·41	−1·19	−6·67
	Ratnapura .	+2·84	−0·33	−1·03	+7·24	−12·30	+ 5·57	+ 10·62	+ 3·71	+ 3·59	+3·30	+0·32	+6·89	+30·42
	Puttalam . .	+1·24	−1·23	−3·13	+4·29	−0·88	+ 1·61	− 0·38	− 0·11	+ 0·02	+0·95	−3·96	−3·06	−4·64
	Anuradhapura .	+1·50	−1·18	+0·55	−0·08	−2·33	− 0·63	+ 0·74	− 1·63	− 0·87	−0·79	−1·59	−0·87	−7·18
	Mannar . .	+1·60	−1·11	−0·88	+3·24	−0·95	+ 0·40	+ 0·02	− 0·33	+ 0·97	−4·48	+1·93	−2·36	−1·95
	Jaffna . .	−0·90	−1·30	−0·64	+11·83	−1·22	− 0·38	+ 2·77	− 1·55	− 1·54	+4·35	+6·46	−5·19	+12·69
	Batticaloa .	+3·74	−2·90	−2·69	+2·23	+1·88	− 1·02	+ 1·98	− 2·19	+ 0·59	+5·01	+8·17	−4·35	+10·45
	Hambantota .	+0·23	−1·61	−0·81	+1·84	−2·78	+ 6·95	+ 1·61	+ 3·21	+ 0·70	+8·05	+8·63	−3·89	+22·13
	Galle . .	−1·31	+0·61	+1·01	+2·82	−1·61	+ 4·35	+ 5·97	+ 1·86	+ 0·41	−3·66	−3·21	+0·95	+8·19
	Kandy . .	+5·12	−1·77	−0·79	−1·75	−3·07	+ 3·09	+ 7·66	+ 4·76	+ 3·86	−3·13	+9·18	−1·75	+21·41
	Nuwara Eliya .	−0·98	−1·33	−2·98	+1·35	−1·53	+ 0·57	+ 3·71	+ 3·27	+ 2·79	−3·43	+3·86	−3·01	+2·29
	Hakgala . .	−2·85	−1·85	−3·82	−2·61	−1·60	+ 1·88	+ 3·56	+ 3·45	+ 1·08	−2·45	+5·93	−8·58	−7·86
	Padulla . .	−2·20	−2·45	−0·52	−3·92	+3·08	−2·24	+ 0·24	− 1·97	+ 0·47	+1·41	+0·28	−3·07	−10·89
	Kurunegala .	+0·42	−1·57	−4·03	+4·88	−4·01	− 0·39	+ 8·61	+ 4·09	−0·53	−0·25	+2·01	−0·49	+8·74
BURMA.	Akyab . .	−0·14	−0·19	−0·46	−0·95	−10·68	− 1·05	− 5·89	− 0·41	+ 2·61	−7·22	−3·11	−0·48	−27·97
	Kyaukpyu .	−0·12	−0·05	−0·25	−0·64	−7·52	+ 4·33	− 17·31	+ 3·92	− 1·08	−7·26	−1·11	−0·12	−27·21
	Sandoway .	−0·08	−0·05	−0·11	−1·02	−9·23	+ 15·63	− 9·55	+ 11·49	− 6·63	−3·45	+0·95	+0·05	−2·00
	Rangoon . .	0	−0·27	−0·18	−1·66	+2·56	+ 0·09	+ 2·23	+ 5·01	− 1·72	−0·27	−1·24	+0·07	+4·48
	Bassein . .	−0·18	−0·23	−0·05	−1·27	−3·47	+ 10·03	− 7·16	+ 11·88	+ 2·29	−4·13	−1·09	−0·05	+6·57
	Diamond Island	−0·22	−0·09	−0·01	−1·35	−1·35	+ 3·16	−0·33	− 1·78	+ 0·53	−5·68	−4·30	−0·80	−12·22
	Henzada . .	−0·07	−0·21	−0·04	−0·88	−1·44	+ 7·68	− 7·80	− 2·90	+ 1·37	−3·21	−1·36	−0·07	− 8·93

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BURMA—*concld.*	Myanaung .	−0·06	−0·03	−0·01	−1·02	−0·66	+8·57	+6·77	+2·61	+7·04	−0·20	−1·04	−0·08	+21·89
	Prome . .	−0·02	−0·01	−0·02	+0·11	−3·84	+2·15	−0·16	+4·36	+1·68	+1·28	−0·65	−0·08	+4·80
	Thayetmyo .	−0·01	−0·03	−0·07	−0·57	−1·66	+6·15	−0·41	+4·26	+0·81	+0·29	−1·23	−0·04	+7·49
	Mandalay .	−0·08	−0·07	−0·20	+0·82	−1·24	−3·15	+0·68	+2·00	−2·86	−3·84	−0·89	−0·07	−8·90
	Shwebo . .	−0·09	−0·08	−0·11	−0·35	−1·35	+3·93	+2·73	+3·71	−0·75	+0·60	−0·40	−0·19	+7·64
	Ye-u . .	−0·10	−0·09	−0·27	−0·73	−1·43	+1·11	+0·77	+4·88	+4·15	−0·51	−0·68	−0·14	+6·96
	Minbu . .	−0·05	−0·02	0	−0·69	−2·55	+5·11	+3·67	+0·37	−0·49	+3·29	−1·18	−0·14	+7·32
	Pyinmana .	−0·06	−0·09	−0·02	−0·02	+9·65	−0·50	−2·45	−0·11	+0·64	+3·25	−0·33	+0·52	+8·64
	Pagan . .	−0·04	−0·05	−0·14	−0·72	−1·62	+0·92	+0·57	+4·34	+4·19	+4·71	−1·03	+0·64	+11·77
	Kyauksai .	−0·21	−0·04	−0·12	−0·91	+3·16	−2·63	+2·66	+1·55	+0·89	−0·74	−1·24	−0·08	+2·14
	Bhamo . .	−0·23	−0·40	+0·34	−0·45	−3·53	−5·82	+0·26	−2·03	−5·74	−0·05	−0·87	−0·07	−18·59
	Kindat . .	−0·31	−0·24	−0·38	−1·17	−2·17	+2·20	+11·92	+3·40	+0·33	−0·06	−1·71	−0·43	+11·38
	Magwe . .	0	−0·04	0	−1·05	−2·17	+8·04	+0·33	−0·07	+0·70	+1·97	−0·95	−0·47	+6·29
	Yemethin .	−0·02	−0·13	−0·11	+0·66	+8·12	+3·30	+0·82	+0·71	+0·20	−0·82	+2·71	+0·39	+13·42
	Fort Sagaing .	−0·05	−0·06	−0·24	−0·72	−0·13	−2·37	−2·09	+3·43	−2·01	−1·38	+0·03	+0·08	−5·51
	Mingin . .	−0·14	−0·04	+0·85	−0·76	+0·89	+6·15	+5·50	+5·23	+8·09	+1·49	−1·62	−0·23	+25·41
	Toungoo . .	−0·07	−0·13	+0·13	−0·71	−0·57	+0·93	−3·82	+7·43	+2·22	+2·94	−0·62	+0·10	+7·83
	Shwegyin .	−0·12	−0·39	−0·28	−2·45	−1·88	−6·14	+3·25	+0·96	−3·25	+4·00	−0·92	−0·08	−7·30
	Moulmein .	−0·16	−0·14	−0·25	−2·38	−1·76	−2·86	−14·30	+12·92	+2·50	+0·95	+1·06	−0·02	−4·44
	Tavoy . .	−0·19	−0·48	+1·63	−1·61	+1·07	+8·57	+8·28	+9·22	+15·31	−5·67	+0·28	−0·11	+36·30
	Mergui . .	+0·14	+1·47	+0·93	−1·97	−6·12	+5·10	−1·01	−2·36	+8·99	−3·92	−1·98	−0·46	−1·19
	Myingyan .	−0·06	−0·07	+0·05	−0·40	−0·83	+2·60	+3·37	+2·35	+0·38	−1·35	−0·74	+0·17	+5·47
	Monywa . .	0	−0·01	−0·29	−1·04	−1·33	−0·74	+0·98	+4·17	+3·06	−1·24	−0·35	−0·22	+2·99
BAY ISLANDS.	Port Blair .	−0·80	−1·08	−0·34	−0·67	−2·82	−7·02	−6·14	−1·66	−5·74	−1·72	−4·75	+1·17	−31·57
	Cocos Island .	−0·33	−0·10	−0·01	−1·02	−1·05	+17·10	+7·30	+2·26	+0·59	−2·89	−6·62	−1·27	+13·96
KASHMIR.	Leh . .	+0·36	−0·09	+0·02	+0·99	+0·09	−0·02	+0·51	+0·10	−0·21	−0·05	−0·10	0	+0·58
	Srinagar .	+0·79	−0·73	+0·64	+7·67	+1·52	−2·31	−4·69	−3·80	+0·25	+1·27	−0·25	+1·64	+2·00
	Skardu . .	−1·75	−1·11	−0·97	−2·76	−0·95	+0·05	+0·02	−0·13	+0·61	+0·10	−0·11	+0·32	−6·68
	Gilgit . .	−0·10	+0·12	−0·29	−0·22	−0·06	−0·10	−0·91	+0·04	−0·05	+0·13	−0·06	+0·21	−1·29
NAPAL	Katmandu .	+4·08	−0·01	−1·14	−1·51	−0·19	−1·47	+3·55	−6·51	−0·78	−1·14	−0·18	+0·37	−4·93
EXTRA INDIA.	Meshed . .	−0·23	−0·02	−1·20	+0·26	+0·85	+0·27	−0·03	−0·02	−0·10	−0·70	+0·41	+0·32	−0·02
	Teheran . .	−0·66	+0·02	−2·64	+0·22	+0·64	+0·01	−0·51	−0·09	−0·02	+0·16	+1·57	−0·26	−0·13
	Ispahan . .	−0·11	+0·38	−1·19	−1·07	−0·09	0	−0·10	0	0	+0·41	−0·81	−0·40	−0·25
	Bushire . .	−1·57	+4·14	−1·41	−0·34	+0·01	0	0	0	0	+0·95	−0·68	+0·71	+0·15
	Jask . .	+0·83	+0·37	−1·21	−0·04	0	−0·13	−0·02	0	0	+0·10	+0·38	+2·42	+0·23
	Muscat . .	+0·17	+0·18	−0·44	−0·05	0	0	−0·08	0	0	−0·04	−0·02	+2·05	+0·15

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1900, with the averages of past years*—concld.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches
Extra India *concld.*	Baghdad	−1·16	−1·33	−0·90	−1·19	−0·26	+0·01	0	−0·13	0	+0·01	+0·66	−0·55	−0·38
	Aden	−0·09	+0·91	−1·13	−0·66	−0·21	−0·01	0	−0·21	−0·21	−0·02	−0·21	−0·45	−0·19
	Perim	+0·61	+0·92	+1·03	−0·03	+0·21	0	+1·40	+0·10	0	−0·09	−0·03	+0·01	+0·34
	Kabul	?	+0·72	−2·44	−0·61	+0·90	−0·37	−0·14	−0·11	0	+0·01	+2·05	−0·38	?
	Kashgar	+0·14	0	−0·05	+0·37	−1·32	−0·37	+0·25	+0·13	−0·13	−0·07	−0·04	−0·27	−0·11
	Zanzibar	+1·50	+1·53	+2·63	+2·86	+1·11	−0·01	+2·98	−0·51	+1·97	+1·32	−0·44	+6·50	+1·79
	Port Victoria (Seychelles)	+0·07	−1·61	−4·04	+5·36	−0·17	−4·91	−0·13	−2·08	−1·41	+2·35	+16·43	+5·74	+1·30
	Mauritius	−3·56	−1·99	+0·86	−2·20	−2·86	−0·61	+0·02	−0·65	−0·56	−0·01	−0·48	−4·02	−1·34

TABLE XXVI.—*Geographical summary of rainfall anomalies in 1900.*

Meteorological Division.	Area, square miles.	Number of stations.	Normal rainfall.	Actual rainfall.	Mean excess or defect.	Total excess square miles × 1 inch.	Total defect square miles × 1 inch.
			Inches.	Inches.	Inches.		
I. Punjab Plains	120,000	29	21·71	24·48	+2·77	332,400	
II. North-Western Provinces and Oudh	83,500	44	38·07	36·97	−1·10		91,850
IIIa. Rajputana, East	67,000	29	27·02	28·69	+1·67	111,890	
IIIb. „ West	58,000	10	12·51	10·61	−1·90		110,200
IV. Central India States	91,000	26	44·26	42·18	−2·08		189,280
V. Bihar	30,000	15	44·75	43·64	−1·11		33,300
VI. Western Bengal	38,000	14	52·76	61·93	+9·18	348,840	
VII. Lower „	54,000	28	65·53	71·66	+6·13	331,020	
VIII. Assam and Cachar	61,000	17	95·19	82·23	−12·96		790,560
IX. Orissa and Northern Circars	27,500	32	52·75	54·79	+2·04	55,080	
X. Central Provinces, South	61,000	19	53·46	58·68	+5·22	318,420	
XI. Berar and Khandesh	43,000	13	36·41	34·46	−1·95		83,850
XII. Gujarat	54,500	13	33·82	29·32	−4·50		245,250
XIII. Sind and Cutch	68,000	10	8·59	6·13	−2·46		167,280
XIV. North Deccan	48,000	13	30·83	27·55	−3·28		157,440
XV. Konkan and Ghats	16,000	11	139·95	155·79	+15·84	253,440	
XVI. Malabar and Ghats	18,000	8	114·50	126·69	+12·19	219,420	
XVII. Hyderabad	74,000	17	34·58	30·77	−3·81		281,940
XVIII. Mysore and Bellary	58,000	18	29·28	25·90	−3·38		196,040
XIX. Carnatic	72,000	36	36·94	33·08	−3·86		277,920
XX. Arakan	11,000	6	152·36	131·41	−20·95		230,450
XXI. Pegu	32,500	7	72·24	78·55	+6·31	205,075	
XXII. Tenasserim	10,500	4	173·30	179·15	+5·85	61,425	
XXIII. Upper Burma	?	13	39·02	44·19	+5·17		

On the mean of the whole are a represented in the above table there was a defect of 0·52 inch or, excluding the Burmese Peninsula of 0·57 inch.

TABLE XXVII.—*Geographical summary of the distribution of rainfall in 1900 according to season.*

METEOROLOGICAL DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER.		
	Normal average.	Actual average.	Difference.	Normal average.	Actual average	Difference.	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
North-West Himalayas	6·43	7·33	+0·90	7·21	8·86	+1·65	41·54	41·56	+0·02	1·74	3·52	+1·78
Punjab Plains	2·24	1·78	−0·46	2·75	2·48	−0·27	16·22	18·99	+2·77	0·75	1·23	+0·48
North-Western Provinces and Oudh.	1·48	2·48	+1·00	1·41	1·11	−0·30	35·69	32·96	−2·73	0·45	1·47	+1·02
Rajputana	0·55	0·02	−0·53	0·76	1·30	+0·54	21·59	22·10	+0·51	0·39	0·62	+0·23
Central India States	0·97	1·30	+0·33	0·80	0·48	−0·32	41·76	39·30	−2·46	0·73	1·10	+0·37
Bihar	1·19	3·23	+2·04	2·51	1·30	−1·21	40·34	37·33	−3·01	0·34	0·46	+0·12
Western Bengal and Chota Nagpur.	1·38	2·60	+1·22	3·59	4·37	+0·78	47·13	54·11	+6·98	0·65	0·83	+0·18
Lower Bengal	1·41	1·65	+0·24	10·64	8·71	−1·93	52·25	60·80	+8·55	0·79	0·10	−0·69
Eastern Himalayas	1·65	1·51	−0·14	18·38	15·04	−3·34	104·53	84·90	−19·63	0·50	0·64	+0·14
Assam and Eastern Bengal	1·83	1·81	−0·02	22·77	23·42	+0·65	69·30	56·47?	−12·83?	1·27	0·52	−0·75
Orissa and Northern Circars	0·74	0·29	−0·45	4·75	5·51	+0·76	44·68	47·56?	+2·88?	2·42	0·31	−2·11
Central Provinces South	0·86	0·96	+0·10	1·84	1·06	−0·78	49·58	56·41	+6·83	0·90	0·26	−0·64
Berar and Khandesh	0·53	0·08	−0·45	1·13	0·52	−0·61	33·56	33·84	+0·28	1.19	0·02	−1·17
Gujarat	0·18	0	−0·18	0·37	0·44	+0·07	32·72	28 54	−4·18	0·35	0·02	−0·33
Sind and Cutch	0·53	0·03	−0·50	0·46	0·32	−0·14	8·22	6·36	−1·86	0 22	0·52	+0·30
North Deccan	0·19	0·08	−0·11	3·36	2·81	−0·55	25·71	24·54	−1·17	1·55	0·12	−1·43
Konkan and Ghâts	0·23	0·09	−0·14	1·71	0·13	−1·58	132·38	148·73	+16·35	0·97	0·01	−0·96
Malabar and Ghâts	0·50	0·31	−0·19	11·39	7·13	−4·26	98·53	117·45	+18·92	4·09	1·81	−2·28
Hyderabad	0·27	0·04	−0·23	1·95	1·40	−0·55	30·80	27·91	−2·89	1·49	0·26	−1·23
Ceded Districts and Mysore	0·25	0·05	−0·20	4·82	3·84	−0·98	21·63	21·13	−0·50	2·57	0·87	−1·76
Carnatic	0·89	0·60	−0·29	3·97	4·68	+0·71	21·05	19·35	−1·70	10·97	8·24	−2·73
Nilgiris	2·05	2·06	+0·01	9·56	4 85	−4·71	26·85	31·46	+4·61	11·91	4·32	−7·59
Arakan	0·97	0·75	−0·22	16·37	7·22	−9·15	125·56	122·20	−3·36	2·95	1·26	−1·69
Pegu	0·22	0·02	−0·20	8·46	6·21	−2·25	66·57	74·58	+8·01	2·89	1·31	−1·58
Tenasserim	1·02	1·05	+0·03	22·02	18·25	−3·77	147·95	158·09	+10·14	2·32	1·76	−0·56
Upper Burma	0·24	0·05	−0·19	6·12	5·53	−0·59	29·78	36·32	+6·54	1·56	0·92	−0·64
Bay Islands	1·17	0·02	−1·15	15·03	12 09	−2·94	69 08	70·11	+1·03	11·73	6·00	−5·73

TABLE XXVIII.—*Aerage actual and normal rainfall data of the 57 meteorological divisions in India for the four seasons of the year 1900 and for the whole year.*

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Burma	1. Tenasserim	0·76			19·10			171·70			1·39			192·95		
	2. Lower Burma Deltaic	0·01			8·87			98·77			1·12			077		
	3. Central do.	0			4·03			58·66			0·74			63·43		
	4. Upper do.	0·08	0·24	−0·16	5·54	6·12	−0·58	39·27	29·78	+ 9·49	0·69	1·56	−0·87	45·58	37·70	+ 7·88
	5. Arakan	0·02			5·04			147·88			1·07			154·01		
Bengal and Assam	6. Eastern Bengal	1·74	1·43	+0·31	83·19	17·32	−4·13	66·36	68·27	— 1·91	0·24	1·62	−1·38	81·53	88·64	— 7·11
	7. Assam Surma	2·02	2·38	−0·36	41·54	38·62	+2·92	65·77	90·72	−24·95	0·15	1·89	−1·74	109·48	133·61	−24·13
	8. Do. Hills	1·95	1·86	+0·09	26·17	27·44	−1·27	68·98	94·54	−25·56	0·46	1·72	−1·26	97·56	125·56	−28·00
	9. Do. Brahmaputra	1·77	2·17	−0·40	23·79	23·52	+0·27	62·78	73·06	−10·28	1·27	0·95	+0·32	89·61	99·70	−10·09
	10. Deltaic Bengal	1·85	1·64	+0·21	9·32	10·18	−0·86	65·76	47·67	+18·09	0·16	1·09	−0·93	77·09	60·58	+16·51
	11. Central do.	1·58	1·29	+0·29	6·45	7·72	−1·27	47·75	46·59	+ 1·16	0·08	0·67	−0·59	55·86	56·27	— 0·41
	12. North do.	1·05	1·02	+0·03	11·51	15·49	−3·98	63·96	78·28	−14·32	0·03	0·25	−0·22	76·55	95·04	−18·49
	13. Bengal Hills	0·96	1·69	−0·73	12·58	18·95	−6·37	87·02	116·36	−29·34	0·21	0·56	−0·35	100·77	137·56	−36·79
	14. Orissa	0·62	1·18	−0·56	6·86	6·78	+0·08	64·09	49·39	+14·70	0·06	2·41	−2·35	71·63	59·76	+11·87
	15. Chota Nagpur	2·71	1·41	+1·30	4·54	4·31	+0·23	51·00	47·57	+ 3·43	1·00	0·71	+0·29	59·25	54·00	+ 5·25
	16. South Bihar	3·54	1·29	+2·25	1·34	2·37	−1·03	35·87	39·81	— 3·94	0·98	0·39	+0·59	41·73	43·86	— 2·13
	17. North do.	2·50	1·20	+1·30	2·88	4·42	−1·54	47·06	47·83	— 0·77	0·20	0·23	−0·03	52·64	53·68	— 1·04
North-Western Provinces and Oudh.	18. North-Western Provinces East.	3·69	0·99	+2·70	0·60	0·91	−0·31	30·96	35·98	— 5·02	1·66	0·37	+1·29	36·91	38·25	— 1·34
	19. South Oudh	2·83	0·95	+1·88	0·70	0·99	−0·29	31·41	33·73	— 2·32	1·32	0·43	+0·89	36·26	36·10	+ 0·16
	20. North do.	2·43	1·09	+1·34	1·08	1·55	−0·47	34·36	35·89	— 1·53	0·80	0·42	+0·38	38·67	38·95	— 0·28
	21. North-Western Provinces Central.	1·32	0·76	+0·56	0·64	0·73	−0·09	27·28	32·41	— 5·13	1·85	0·39	+1·46	31·09	34·29	— 3·20
	22. North-Western Provinces West.	0·50	0·88	−0·38	1·00	1·04	−0·04	23·91	24·06	— 0·15	1·31	0·35	+0·96	26·72	26·33	+ 0·39
	23. North-Western Provinces East Submontane.	4·26	0·98	+3·28	1·35	1·75	−0·40	37·73	39·50	— 1·77	0·58	0·27	+0·31	43·92	42·50	+ 1·42
	24. North-Western Provinces West Submontane.	3·02	2·51	+0·51	2·11	2·12	−0·01	38·80	41·13	— 2·33	1·81	0·60	+1 21	45·74	46·36	— 0·62
	25. North-Western Provinces Hills.	6·84	4·63	+2·21	5·79	5·16	+0·63	45·14	50·67	— 5·53	2·52	0·73	+1·79	60·29	61·19	— 0·90
Punjab	26. South-East Punjab	0·47	1·13	−0·66	1·65	1·32	+0·33	25·07	20·76	+ 4·31	1·44	0·33	+1·11	28·63	23·54	+ 5·09
	27. South do.	0·54	1·08	−0·54	1·06	1·40	−0·34	20·34	13·19	+ 7·15	0·65	0·33	+0·32	22·59	16·00	+ 6·59
	28. Central do.	1·16	2·00	−0·84	1·86	2·36	−0·50	15·37	14·00	+ 1 37	0·86	0·51	+0·35	19·25	18·87	+ 0·38
	29. Punjab Submontane.	2·87	2·90	−0·03	2·01	2·69	−0·68	36·76	24·52	+12·24	1·77	0·75	+1·02	43·41	30·86	+12·55
	30. Do. Hills	7·06	6·55	+0·51	7·25	8·53	−1·28	52·65	45·43	+ 7·22	5·34	1·63	+3·71	72·30	62·14	+10·16

TABLE XXVIII.—*Average actual and normal rainfall data of the 57 meteorological divisions in India for the four seasons of the year 1900 and for the whole year*—concld.

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Punjab—*concld.*	31. North Punjab	3·83	3·23	+0·60	6·16	4·56	+1·60	14·61	12·26	+2·35	1·92	1·23	+0·69	26·52	21·28	+5·24
	32. West do.	0·68	0·98	−0·30	1·90	1·40	+0·50	4·76	6·25	−1·49	0·65	0·27	+0·38	7·99	8·90	−0·91
Bombay and Malabar Coast Districts (Madras).	33. Malabar	0·08	0·37	−0·29	6·13	10·95	−4·82	128·21	109·54	+18·67	1·47	4·21	−2·74	135·89	125·07	+10·82
	33A. Travancore	1·06			11·08			65·74			7·58			85·46		
	34. Madras South Central	0·88	0·46	+0·42	6·28	5·94	+0·34	19·24	17·88	+1·36	2·10	5·05	−2·95	28·50	29·33	−0·83
	35. Coorg	0·84			5·94			115·91			0·45			122·44		
	36. Mysore	0·10	0·18	−0·08	3·73	5·18	−1·45	34·87	25·91	+8·96	0·47	3·19	−2·72	39·17	34·46	+4·71
	37. Konkan	0·01	0·14	−0·13	0·37	2·08	−1·71	113·74	111·73	+2·01	0·09	1·24	−1·15	114·21	115·19	−0·98
	38. Bombay Deccan	0·05	0·10	−0·05	1·72	2·79	−1·07	31·37	31·25	+0·12	0·11	1·85	−1·74	33·25	35·99	−2·74
	39. Hyderabad North	0·08	0·17	−0·09	1·09	1·42	−0·33	31·36	32·38	−1·02	0·07	1·89	−1·82	32·60	35·86	−3·26
	40. Khandesh	0·02	0·13	−0·11	0·07	1·23	−1·16	28·35	29·93	−1·58	0	1·48	−1·48	28·44	32·77	−4·33
Central Provinces and Berar.	41. Berar	0·15	0·65	−0·50	0·22	1·25	−1·03	31·61	37·48	−5·87	0·04	1·18	−1·14	32·02	40·56	−8·54
	42. Central Provinces West.	0·56	0·77	−0·21	0·28	0·95	−0·67	45·49	42·05	+3·44	0·28	0·90	−0·62	46·61	44·67	+1·94
	43. Central Provinces Central.	1·49	0·77	+0·72	0·62	1·27	−0·65	51·83	48·79	+3·04	0·47	0·70	−0·23	54·41	51·53	+2·88
	44. Central Provinces East.	1·46	0·82	+0·64	2·17	1·94	+0·23	59·91	46·55	+13·36	0·32	0·77	−0·45	63·86	50·08	+13·78
Bombay (North)	45. Gujarat	0	0·08	−0·08	0·34	0·32	+0·02	34·51	43·57	−9·06	0·01	0·24	−0·23	34·86	44·21	−9·35
	46. Kathiawar and Cutch	0·01	0·14	−0·13	0·55	0·37	+0·18	28·81	27·32	+1·49	0·02	0·36	−0·34	29·39	28·19	+1·20
	47. Sind	0·03	0·71	−0·68	0·25	0·60	−0·35	3·43	4·51	−1·08	0·67	0·18	+0·49	4·38	6·00	−1·62
	48. Baluchistan Hills	2·21	3·57	−1·36	1·85	1·68	+0·17	1·67	2·42	−0·75	4·41	1·71	+2·70	10·14	9·38	+0·76
Rajputana and Central India.	49. Central India East	0·67	0·96	−0·29	0·35	0·75	−0·40	36·67	40·48	−3·81	1·02	0·72	+0·30	38·71	42·91	−4·20
	50. Rajputana East, Central India West.	0·06	0·69	−0·63	1·21	0·81	+0·40	29·02	26·19	+2·83	0·80	0·49	+0·31	31·09	28·18	+2·91
	51. West Rajputana	0·02	0·43	−0·41	0·79	0·72	+0·07	12·64	11·13	+1·51	0·31	0·25	+0·06	13·76	12·53	+1·23
Madras	52. East Coast North	0·17	0·36	−0·19	4·53	3·54	+0·99	31·37	34·33	−2·96	0·70	3·29	−2·59	36·77	41·52	−4·75
	53. Hyderabad South	0	0·24	−0·24	1·48	2·24	−0·76	24·41	25·92	−1·51	0·39	1·56	−1·17	26·28	29·96	−3·68
	54. Madras Central	0	0·12	−0·12	2·60	2·46	+0·14	17·84	19·67	−1·83	0·90	2·59	−1·69	21·34	24·84	−3·50
	55. East Coast Central	0·09	0·58	−0·49	2·48	1·89	+0·59	15·99	20·51	−4·52	6·25	10·19	−3·94	24·81	33·17	−8·36
	56. East Coast South	0·24	0·93	−0·69	5·06	3·37	+1·69	20·73	23·13	−2·40	10·47	14·14	−3·67	36·50	41·37	−5·07
	57. Madras South	1·72	1·46	+0·26	6·71	4·87	+1·84	13·60	12·39	+1·21	11·26	9·82	+1·44	33·29	28·54	+4·75

TABLE XXIX.—*Average actual and normal number of rainy days of the 57 meteorological divisons of India for the four seasons of the year 1900 and for the whole year.*

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.
Burma	1. Tenasserim	1·0			19·8			110·8			3·0			134·6		
	2. Lower Burma Deltaic	0			12·4			98·4			2·0			112·8		
	3. Central do.	0			7·5			77·5			1·9			86·9		
	4. Upper do.	0·3			10·0			51·7			1·5			63·5		
	5. Arakan	0·1			9·4			94·3			1·7			105·5		
Bengal and Assam	6. Eastern Bengal	3·2	2·5	+0·7	18·6	19·4	−0·8	66·7	71·3	− 4·6	0·4	2·0	−1·6	88·9	95·2	− 6·3
	7. Assam Surma	4·1	4·2	−0·1	43·7	35·7	+8·0	70·6	88·2	−17·6	0·3	2·4	−2·1	118·7	130·5	−11·8
	8. Do. Hills	4·4	3·9	+0·5	33·0	29·4	+3·6	77·3	86·0	− 8·3	1·4	3·2	−1·8	116·3	122·5	− 6·2
	9. Do. Brahmaputra	4·9	5·5	−0·6	35·6	32·0	+3·6	62·9	72·8	− 9·9	3·0	2·2	+0·8	106·4	112·3	− 6·1
	10. Deltaic Bengal	3·3	2·3	+1·0	15·5	14·0	+1·5	64·0	62·4	+ 1·6	0·4	1·4	−1·0	83·2	80·1	+ 3·1
	11. Central do.	2·4	2·3	+1·1	10·9	11·0	−0·1	57·6	58·7	−1·1	0·2	1·0	−0·8	72·1	73·0	− 0·9
	12. North do.	2·7	2·1	+0·6	15·3	17·7	−2·4	59·5	64·9	−5·4	0·1	0·5	−0·4	77·6	85·2	− 7·6
	13. Bengal Hills	3·7	3·6	+0·1	23·2	24·9	−1·7	80·6	89·9	−9·3	0·6	1·4	−0·8	108·1	119·8	−11·7
	14. Orissa	1·4	2·0	−0·6	12·5	9·1	+3·4	60·2	59·0	+1·2	0·1	2·5	−2·4	74·2	72·6	+ 1·6
	15. Chota Nagpur	4·1	2·8	+1·3	9·7	7·1	+2·6	59·2	58·3	+0·9	1·4	1·2	+0·2	74·4	69·4	+ 5·0
	16. South Bihar	7·1	2·6	+4·5	2·7	3·6	−0·9	44·6	46·5	−1·9	1·6	0·6	+1·0	56·0	53·3	+ 2·7
	17. North do.	5·3	2·4	+2·9	4·7	6·5	−1·8	48·2	50·3	−2·1	0·8	0·6	+0·2	59·0	59·8	− 0·8
North-Western Provinces and Oudh.	18. North-Western Provinces East.	6·8	2·2	+4·6	1·4	2·1	−0·7	41·4	40·9	+0·5	2·1	0·6	+1·3	51·7	45·8	+ 5·9
	19. South Oudh	4·5	2·0	+2·5	1·8	2·2	−0·4	37·1	37·8	−0·7	2·9	0·7	+2·2	46·3	42·7	+ 3·6
	20. North do.	4·5	2·1	+2·4	2·7	3·1	−0·4	37·5	38·1	−0·6	1·9	0·7	+1·2	46·6	44·0	+ 2·6
	21. North-Western Provinces Central.	3·2	1·9	+1·3	1·8	1·9	−0·1	37·9	36·2	+1·7	3·8	0·6	+3·2	46·7	40·6	+ 6·1
	22. North-Western Provinces West.	1·6	2·2	−0·6	3·4	2·7	+0·7	31·1	27·3	+3·6	3·9	0·5	+3·4	40·0	32·9	+ 7·1
	23. North-Western Provinces East Submontane.	5·8	2·2	+3·6	3·3	3·1	+0·2	41·1	41·6	−0·5	1·6	0·6	+1·0	51·8	47·5	+ 4·3
	24. North-Western Provinces West Submontane.	5·5	4·5	+1·0	5·0	4·4	+0·6	40·6	37·3	+3·3	3·4	1·1	+2·3	54·5	47·3	+ 7·2
	25. North-Western Provinces Hills.	7·5	8·1	−0·6	12·3	11·1	+1·2	55·4	58·0	−2·6	3·7	1·7	+2·0	78·9	78·9	0
Punjab	26. South-East Punjab	1·7	2·5	−0·8	4·0	3·0	+1·0	29·3	22·7	+6·6	3·3	0·8	+2·5	38·3	29·0	+ 9·3
	27. South do.	1·6	2·4	−0·8	3·4	2·9	+0·5	19·9	15·5	+4·4	1·6	0·5	+1·1	26·5	21·3	+ 5·2
	28. Central do.	4·1	4·1	0	5·3	4·8	+0·5	17·0	15·9	+1·1	2·5	0·8	+1·7	28·9	25·6	+ 3·3
	29. Punjab Submontane	5·4	4·9	+0·5	6·1	4·9	+1·2	29·5	23·8	+5·7	3·2	1·1	+2·1	44·2	34·7	+ 9·5
	30. Do. Hills	12·3	8·7	+3·6	17·2	13·4	+3·8	50·1	46·0	+4·1	6·0	2·2	+3·8	85·6	70·3	+15·3

TABLE XXIX.—*Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1900 and for the whole year*—concld.

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.
Punjab—*concld.*	31. North Punjab	8·0	5·4	+2·6	15·0	7·8	+7·2	20·0	15·4	+4·6	4·0	1·6	+2·4	47·0	30·2	+16·8
	32. West do.	2·4	2·4	0	4·8	2·9	+1·9	8·0	8·6	−0·6	2·6	0·4	+1·6	17·2	14·3	+ 2·9
Bombay and Malabar Coast Districts (Madras)	33. Malabar	0	0·4	−0·4	7·6	13·7	−6·1	100·7	97·8	+2·9	2·6	6·2	−3·6	110·9	118·1	− 7·2
	33 A. Travancore	1·8			14·4			83·0			11·2			110·4		
	34. Madras South Central	1·0	0·7	+0·3	9·2	9·2	0	31·7	28·1	+3·6	5·4	7·9	−2·5	47·3	45·9	+ 1·4
	35. Coorg	0·5			11·8			100·9			1·1			114·3		
	36. Mysore	0·2	0·3	−0·1	6·0	8·7	−2·7	45·7	39·4	+6·3	1·3	4·9	−3·6	53·2	53·3	− 0·1
	37. Konkan	0	0·2	−0·2	0·9	3·2	−2·3	86·3	94·3	−8·0	0·2	2·0	−1·8	87·4	99·7	−12·3
	38. Bombay Deccan	0·2	0·3	−0·1	3·8	5·6	−1·8	39·3	45·1	−5·8	0·3	3·1	−2·8	43·6	54·1	−10·5
	39. Hyderabad North	0·3			2·8			42·2			0·2			45·5		
	40. Khandesh	0·1	0·2	−0·1	0·1	2·1	−2·0	38·0	42·1	−4·1	0	2·2	−2·2	38·2	46·6	− 8·4
	41. Berar	0·5			0·5			39·5			0·2			40·7		
Central Provinces and Berar.	42. Central Provinces West.	1·2	1·4	−0·2	0·6	1·2	−0·6	48·8	49·1	− 0·3	0·7	1·2	−0·5	51·3	52·9	− 1·6
	43. Central Provinces Central.	2·9	1·7	+1·2	1·7	2·8	−1·1	56·1	52·4	+ 3·7	1·1	1·1	0	61·8	58·0	+ 3·8
	44. Central Provinces East.	3·4	1·7	+1·7	5·7	3·7	+2·0	63·3	49·5	+13·8	0·1	1·3	−1·2	72·5	56·2	+16·3
Bombay (North)	45. Gujarat	0	0·2	−0·2	0·9	0·5	+0·4	35·1	47·3	−12·8	0	0·5	−0·5	36·0	49·1	−13·1
	46. Kathiawar and Cutch	0	0·2	−0·2	1·0	0·6	+0·4	26·1	27·3	− 1·2	0·1	0·3	−0·2	27·2	28·4	− 1·2
	47. Sind	0			0·9			4·9			1·8			7·6		
	48. Baluchistan Hills	2·6			5·8			3·2			9·7			21·3		
Rajputana and Central India.	49. Central India East	1·6			1·3			46·3			2·1			51·3		
	50. Rajputana East, Central India West.	0			3·3			33·9			2·4			39·6		
	51. West Rajputana	0·1			2·3			16·7			1·1			20·2		
Madras	52. East Coast North	0·3	0·5	−0·2	7·0	5·8	+1·2	43·8	45·6	− 1·8	1·3	3·5	−2·2	52·4	55·4	− 3·0
	53. Hyderabad South	0			3·6			41·2			0·9			45·7		
	54. Madras Central	0	0	0	4·6	4·7	−0·1	31·3	30·6	+ 0·7	2·0	4·1	−2·1	37·9	39·4	− 1·5
	55. East Coast Central	0	1·1	−1·1	3·1	2·7	+0·4	29·0	28·3	+ 0·7	8·1	9·4	−1·3	40·2	41·5	− 1·3
	56. East Coast South	0·8	1·6	−0·8	6·4	4·8	+1·6	29·3	31·2	− 1·9	14·0	14·3	−0·3	50·5	51·9	− 1·4
	57. Madras South	2·7	2·1	+0·6	8·7	7·3	+1·4	21·5	18·9	+ 2·6	15·4	12·5	+2·9	48·3	40·8	+7·5

I. The cold weather period.—The first half of January in Northern India was unusually free from cold weather storms of any consequence. The principal features of the weather at this time were abnormal dryness of the air, a general absence of rain, more cloud than usual and very unsteady and changeable temperature conditions. From the 1st to the 13th there was practically no rain over the plains of Northern India, though there were some showers in parts of Burma, Assam and the south of the Peninsula at different times during this period. There were, however, slight falls of snow on two or three occasions on the hills around the north-west frontier, each of which falls was followed by a strong outflow of cool, dry air from the hills to the plains reducing both temperature and humidity to considerably below the normal.

Thus on the 1st there was a slight fall of snow in Kashmir. Snow again fell in Kashmir and around the north-west frontier on the 5th and 6th. The weather became somewhat unsettled and thunderstorms occurred over the south of the Peninsula on the 9th, 10th and 11th. Falls of two to six inches were recorded at a considerable number of stations in the Coimbatore, Tinnevelly and Salem districts and in Travancore. About the 12th of January the weather changed and became very unsettled over Northern India. On that day pressure was giving way briskly to rapidly in Baluchistan, the West Punjab, Sind, Rajputana and Gujarat, and on the following day an ill-defined depression lay over the Western Desert. This depression developed a secondary depression over the East and Central Punjab on the 14th, and the two depressions continued to affect the weather until the 18th by which date they had both filled up. Rain commenced in the Central Provinces on the 13th, and rain on the plains and snow on the hills of Northern India continued until the disappearance of the depressions on the 18th. On the 19th a fresh depression was passing eastward along the Mekran Coast. This storm entered Lower Sind on the 20th and at the same time a secondary depression began to make its apppearance over the Punjab and Kashmir Himalayas. These two depressions drifted eastward, the former through Rajputana, Central India and the Central Provinces to West Bengal, where it filled up on the 24th, and the latter along the line of the Himalayas to the east submontane division of the North-Western Provinces where it also filled up on the 24th. This double depression occasioned the heaviest burst of snow on the hills and of rain on the plains that was experienced during the month.

The rainfall of the month was more or less above the normal over a considerable part of Northern India and the greater part of the Central Provinces. It was also in excess over the extreme south of the Peninsula but was less than usual over the remainder of India and Burma.

There were in all six disturbances or cold-weather storms during the month of February—a larger number than usual. They were, however, very feeble and gave much less rain, both in amount and extent, than occasionally accompanies these storms. The chief periods of disturbance and hence of partial or general rainfall were the 1st and 2nd, the 7th to the 9th, the 10th to the 12th, the 16th to the 19th and the 24th to the 27th. The first and second disturbances gave rain to Baluchistan, Kashmir and the Gangetic Plain, and the third, fourth and fifth to Northern India generally.

The rainfall of the month was small in amount in the areas of rainfall and was more or less in defect. It was locally in excess in Assam, East, Deltaic and North Bengal, the North Punjab and the western and central districts of the Central Provinces.

(1) The following data show that the precipitation of the cold weather period was very irregularly distributed at the hill stations in Upper India and was probably on the mean of the Western Himalayas slightly above the normal:—

Station.	Rainfall.					
	Actual, January.	Actual, February.	Total actual of period January and February.	Total normal of period January and February	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	Inches.	
Murree . .	5·19	2·28	7·47	7·25	+0·22	+3
Simla . . .	3·38	2·45	5·83	5·03	+0·80	+16
Dalhousie . .	7·20	3·71	10·91	5·80	+5·11	+88
Dharmsala . .	5·34	2·01	7·35	8·95	—1·60	—18
Mussooree . .	6·53	3·40	9·93	5·72	+4·21	+74
Ranikhet . .	3·88	2·32	6·20	4·89	+1·31	+27
Kailang . .	3·02	2·19	5·21	6·27	—1·06	—17

(2) Accurate snowfall measurements are made at several stations in the Western Himalayas. The following gives the amounts registered at six of these stations where the measurements are believed to be carefully taken:—

District or state.	Station.	Height in feet above sea level.	Total snowfall in the month of				Total.		Approximate normal snowfall of period.	
			January.		February.					
			ft.	in.	ft.	in.	ft.	in.	ft.	in.
Rawalpindi .	Murree . .	6,344	7	7	4	6	12	1	11	9
Lahoul . .	Kailang .	10,087	2	8½	1	6	4	2½	4	7
Chamba .	Thanela .	7,000	11	9	5	6	17	3	11	7
	Kalatap .	8,000	7	11	1	10	9	9	9	11
Kumaon .	Pindari Pass .	...	13	6	4	6	18	0	13	5*
	Ralumdhura Pass . .	...	30	6	19	0	49	6	33	3*

* Mean of 4 years.

(3) The rainfall of the period was considerably to largely in defect, relatively to the normal, in Baluchistan, Sind,

Rajputana and Central India and in slight defect in the Punjab, as shown below :—

Area.	Rainfall of period January and February.			
	Average, actual.	Average, normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Baluchistan	2·21	3·57	—1·36	—38
Punjab	1·59	1·89	—0·30	—16
Rajputana	0·04	0·56	—0·52	—93
Sind	0·03	0·71	—0·68	—96
Central India	0·67	0·96	—0·29	—30

The deficiency was very pronounced in both months in Sind and Rajputana and practically no rain fell in either of these areas.

(4) North-Eastern India (with the exception of Orissa and Assam) and the Central Provinces received more than the normal amount of rain, due chiefly to the passage of two cold-weather depressions in January and in part to a series of hot weather thunderstorms in East Bengal and Assam in February. The following gives data :—

Area.	Rainfall of period January and February.			
	Average, actual.	Average, normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North-Western Provinces and Oudh	2·58	1·17	+1·41	+121
Bihar	3·02	1·25	+1·77	+142
Bengal	1·56	1·35	+0·21	+16
Chota Nagpur	2·71	1·41	+1·30	+92
Central Provinces	1·17	0·79	+0·38	+48

(5) The rainfall of the period was, on the other hand, in defect in Burma, Orissa and Assam. The following gives data :—

Area.	Rainfall of period January and February.			
	Average, actual.	Average, normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inch.	
Orissa	0·62	1·18	—0·56	—47
Assam	1·90	2·28	—0·38	—17
Burma	0·17	0·21	—0·04	—19

(6) The rainfall of the period was very scanty over nearly the whole of the Peninsula except South Madras which received moderate rain from thunderstorms in January. The following gives comparative data for that area :—

Area.	Rainfall of period January and February.			
	Average, actual.	Average, normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inch.	
Berar	0·15	0·65	—0·50	—77
Hyderabad	0·04	0·21	—0·17	—81
Bombay Deccan	0·05	0·10	—0·05	—50
Madras Central	0	0·12	—0·12	—100
Madras Coast	0·17	0·62	—0·45	—73
Malabar	0·08	0·37	—0·29	—78
Konkan	0·01	0·14	—0·13	—93
Mysore	0·10	0·18	—0·08	—44
Madras South	1·72	1·46	+0·26	+18

II. The hot weather period.—The rainfall of March was largely in defect over nearly the whole of India. Three depressions, the first and the second originating in the Persian area, crossed Northern India during the month. They gave little cloud and no rain over the greater part of the area they traversed. Baluchistan, Kashmir, the Punjab hills and the North Punjab received moderate showers during the advance of these depressions across North-Western India. North and East Bengal and Assam had moderate rain during two periods of thunderstorms, chiefly from the 9th to the 11th and the 17th to the end of the month.

Over a large part of India, including the Gangetice Plain, Chota Nagpur, Rajputana, West India and South India, the rainfall was absolutely or practically *nil*.

April was more disturbed than usual over the whole of India. A succession of four depressions formed in Baluchistan or Sind and passed eastwards across North-Western India. Each depression during its advance gave series of duststorms in the plains and thunderstorms in the lower ranges and snowstorms in the higher ranges of the Kashmir and Punjab Himalayas. The snowfall of the month in the Western Himalayas was greater than usual.

The third depression was the most important as it gave a late and heavy fall of snow down to comparatively low elevations.

A noteworthy feature of the month was that the disturbed periods in Northern India were followed by disturbed weather giving frequent thundershowers and rain in the Deccan and Southern India.

The rainfall of the month was in considerable defect in Burma and normal in Bengal. It was in excess over nearly the whole of the remainder of the area, more especially in North-West and South India.

The most important feature of the precipitation was the late and heavy snowfall in the Western Himalayas.

A noteworthy feature of the month of April was the severity of the hailstorms and thunderstorms which occurred in Assam. The most remarkable fall occurred in the Goalpara district on the 18th. This storm or tornado extended over a narrow belt, not more than half a mile in width and not more than 30 or 40 miles in length. It destroyed every thing over which it passed, killing and injuring a large number of people (*vide* account in April Monthly Review pages 211-213).

The next month, May, usually witnesses the commencement of heavy and general rain, characteristic of the monsoon period, in two areas, *viz.*, Burma and the Malabar Coast. The rain in Burma is frequently initiated by a cyclonic storm. This was the case in 1900. A small storm formed in the Andaman Sea and advanced northwards to the Lower Pegu Coast. Its advance gave heavy rain in Lower Burma on the 2nd and 3rd and its disappearance was followed by frequent rain, more especially in Lower and Central Burma.

The first burst of monsoon rains in Malabar did not occur in May due to delay in the initiation of monsoon conditions in the south of the Arabian Sea. The rainfall of May was hence in large defect in parts of South India and the Malabar Coast districts.

Weather was very disturbed in North-Western India from the 5th to the 7th. A deepish depression formed in that area and advanced eastwards to the hills. It gave heavy thunderstorms in the plains of North-Western India on the 5th, 6th and 7th and much rain and snow in the Kashmir and Punjab Himalayas.

North-East India had almost daily series of thunderstorms and *nor'westers* from the 7th to the 12th.

A feeble but noteworthy disturbance commenced in Kathiawar on the 12th and extended eastwards across the head of the Peninsula during the next week. It gave series of thundershowers from day to day and the greater part of Northern and Central India received light to moderate rain during the period from the 13th to the 20th.

The third disturbance of the month, from the 25th to the 27th, was similar in character to the first, but was feeble. It gave light rain in Baluchistan and the Punjab and rain or snow in the Western Himalayas.

Assam and parts of Bengal obtained daily rain from thunderstorms during the last ten days of the month.

The rainfall of the month of May was abnormally distributed and was considerably below the normal over by far the greater part of the country. It was more or less considerably in defect over the Peninsula and slightly to moderately in defect over the greater part of Burma and North-Eastern India. It was, on the other hand, above it in the areas in North-Western India which received abnormal rain from the first and third disturbances of the month *viz.*, Baluchistan, the North and West Punjab and Rajputana.

Assam and Bengal received frequent moderate to heavy showers during the month. The rainfall of the month was, however, irregularly distributed and was also in general defect in that area. Over the greater part of the Central Provinces and Berar the rainfall of the month was practically *nil*. The eastern districts of the Central Provinces had moderate rain. Parts of Madras also had more rain than usual due to local thunderstorms.

The following is a summary of the chief features of the distribution of rainfall throughout the whole period of the hot weather in 1900 :—

(1) The rainfall was more or less in excess over the area including Baluchistan, the Punjab, Rajputana, Kathiawar and Gujarat (with a few local exceptions of no importance) but was practically *nil* in Sind and Central India.

The following gives data in illustration :—

Area.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inch.	Inch.	Inch.	Inch.	
Baluchistan . .	−0·31	+0·28	+0·20	+0·17	+10
Punjab . . .	−0·43	+0·47	+0 11	+0·15	+7
Rajputana . . .	−0 18	+0·40	+0·02	+0·24	+31
Central India . .	−0·25	+0·03	−0·18	−0·40	−53
Sind	−0·25	−0·02	−0·09	−0·35	−58
Kathiawar . . .	−0·05	+0·11	+0·12	+0·18	+49
Gujarat . . .	−0·01	+0·14	−0·11	+0·02	+6

(2) The precipitation of the period was more or less largely in excess in the North-Western Himalayas, as shown by the data for the stations in that area. The following gives variation data for selected stations :—

Station.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
Srinagar . . .	+0·64	+7·67	+1·52	+9·83	+165
Murree . . .	+0·61	+3·33	−0·98	+2·96	+28
Simla . . .	−1·26	+0·93	+0·43	+0·10	+1
Kailang . . .	−1·10	+6·60	+0·99	+6·49	+77
Kotgarh . . .	−3·10	−0·74	−3·18	−7·02	−48
Kilba . . .	−2·79	+1·21	−1·29	−2·87	−19
Chakrata . . .	−0·96	+2·31	+0·13	+1·48	+23
Ranikhet . . .	−1·50	+2·66	−1·03	+0·13	+2

(3) The rainfall of the period was in defect over nearly the whole of the Gangetic Plain and Bengal in March and May, and was in excess over the greater part of that area in April. It was more or less in excess in Assam in March and April and considerably in defect in May. It was in defect on the mean of the whole period over the whole area excepting five rainfall districts, *viz.*, Chota

Nagpur, Orissa, Assam Brahmaputra, Assam Surma and the North-Western Provinces, West Submontane.

The following gives data :—

Division.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
North-Western Provinces, West Submontane.	—0·76	+0·95	—0·20	—0·01	0
North-Western Provinces, East Submontane.	—0·22	—0·06	—0·12	—0·40	—23
North-Western Provinces, West.	—0·36	+0·46	—0·14	—0·04	— 4
North-Western Provinces, Central.	—0·27	+0·11	+0·07	—0·09	—12
North Oudh . .	—0·39	+0·09	—0·17	—0·47	—30
South Oudh . .	—0·30	0	+0·01	—0·29	—29
North-Western Provinces, East.	—0·25	—0·12	+0·06	—0·31	—34
North Bihar . .	—0·41	—0·72	—0·41	—1·54	—35
South Bihar . .	—0·44	+0·01	—0·60	—1·03	—43
Chota Nagpur . .	—0·84	+1·50	—0·43	+0·23	+ 5
Orissa . . .	+0·10	+0·44	—0·46	+0·08	+ 1
Bengal Hills . .	+0·11	—2·06	—4·42	—6·37	—34
North Bengal . .	—0·45	—1·80	—1·73	—3·98	—26
Central Bengal . .	—0·85	+0·97	—1·39	—1·27	—16
Deltaic Bengal . .	—1·23	+0·50	—0·13	—0·86	— 8
Eastern Bengal . .	—0·14	—0·25	—3·74	—4·13	—24
Assam Brahmaputra .	+1·27	+1·74	—2·74	+0·27	+ 1
Assam Surma . .	+5·61	+5·15	—7·84	+2·92	+ 8

(4) The precipitation was about normal in Burma and Tenasserim in March and less than usual in April and May, and was hence in moderate to large defect for the period over the whole of that area, except Upper Burma, where it was practically normal, as shown below :—

Division.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inch.	Inches.	Inches.	Inches.	
Tenasserim . .	+0·81	—1·76	—4·49	—5·44	—22
Lower Burma . .	—0·08	—0·72	—3·69	—4·49	—34
Central Burma . .	—0·03	—0·84	—2·99	—3·86	—49
Upper Burma . .	+0·18	—0·53	—0·23	—0·58	— 9
Arakan . . .	—0·32	—1·37	—17·06	—18·75	—79

The rainfall in Upper Burma is, it may be noted, frequently similar in distribution and character to that of Assam and usually follows a different law from that in Lower Burma.

(5) The rainfall of the period was generally in considerable to large defect over the interior of the Peninsula and in the West Coast districts, as shown below :—

Division.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal
	Inch.	Inch.	Inches.	Inches.	
Berar . . .	—0·46	—0·06	—0·51	—1·03	—82
Central Provinces .	—0·32	+0·19	—0·23	—0·36	—26
Malabar . . .	—0·50	+0·97	—5·29	—4·82	—44
Konkan . . .	—0·02	—0·13	—1·56	—1·71	—82
Khandesh . . .	—0·03	—0·09	—1·04	—1·16	—94
Bombay Deccan . .	+0·07	+0·02	—1·16	—1·07	—38
Hyderabad . .	—0·03	+0·28	—0·80	—0·55	—30
Mysore . . .	—0·31	+0·85	—1·99	—1·45	—28

(6) It was, on the other hand, in moderate to considerable excess in the Madras Coast districts and South and Central Madras, chiefly due to frequent and heavy thundershowers in April. The following gives comparative data for that area :—

Division.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inch.	Inches.	Inches.	Inches.	
Madras (Central,) .	—0·17	+0·70	—0·39	+0·14	+6
„ East Coast North	—0·12	+0·79	+0·32	+0·99	+28
„ „ „ Central	—0·17	+1·54	—0·78	+0·59	+31
„ „ „ South	—0·26	+2·43	—0·48	+1·69	+50
„ South	—0·78	+0·90	+1·72	+1·84	+38

III. The south-west monsoon period.—The following gives the dates of the establishment of the monsoon (*i.e.*, of the commencement of the heavy rainfall which marked the first burst of the monsoon) in different parts of India in 1900 :—

Province or Division.	Date of commencement of the monsoon rains in 1900.
Malabar	12th June.
Konkan	25th „
Kathiawar	11th July.
Central Provinces	25th June.
Central India	10th July.
Rajputana	„
Bengal	11th June.
Chota Nagpur	14th June.
Bihar	„
North-Western Provinces and Oudh . . .	10th July.
Punjab	„

The preceding data show the unusually slow advance of the Bombay current over the area of its extension in North-Western India. The period may hence from this standpoint be divided into two, the first including the months of June and July, when the Bengal current was strong and the Bombay current weak, and the second the months of August and September when both currents were strong.

The following gives the approximate dates of the termination of the rains in India :—

Province or Division.	Date of termination of the monsoon rains in 1900.
Malabar	29th October.
Konkan	27th September.
Kathiawar	28th September.
Central Provinces	28th September.
Central India	28th September.
Rajputana	27th September.
East Punjab	28th September.
North-Western Provinces	28th September.
Bihar	12th October.
Bengal	13th October.
Burma	26th October.
Tenasserim	31st October.

The following is a brief statement of the chief features of the rainfall in India in June and July during which the Bombay monsoon current was below its normal strength, more especially as estimated by the intensity and extension of the rainfall.

The chief features of the period were the great delay in the establishment of the Arabian Sea monsoon current and the character of its progress, the abnormal northerly tracks of the cyclonic storms of the Bay and the determination of the Bay monsoon current to North-Eastern India.

The first advance of the monsoon current towards the West Coast commenced on the 12th June. The Malabar Coast districts received fairly heavy and general rain between the 16th and 20th. A break occurred until the 24th when moderately heavy rain recommenced on the West Coast extending as far north as Bombay. The rainfall this time extended into the interior of the Peninsula, and Mysore, the Deccan and Central Provinces obtained light to moderate rain from the 25th of June until the 7th or 8th July, when a short partial break occurred. The Arabian Sea current again increased in intensity on the 10th or 11th July and extended further inland through Central India to the western districts of the North-Western Provinces and the East and South Punjab. This burst of rain continued until the 17th or 18th but failed to extend to Gujarat and Kathiawar and the western states of Central India and Rajputana and was followed by a marked break in the rains due to the Arabian Sea current which held until the 26th. A strong advance of humid winds occurred in Ceylon and on the Malabar Coast on the 26th and 27th and it extended rapidly over the whole area dependent on the Bombay current. Gujarat and Kathiawar for the first time during this period received heavy and general rain. At the end of the period general rain was falling over nearly the whole of North Western, Western and Central India and the Deccan area.

The Bay current was fairly normal in strength and character but was more largely determined by the pressure and other conditions to Burma and North-Eastern India than usual. The rains were initiated in Bengal by a cyclonic storm which formed in the Bay on the 10th and 11th of June. It crossed the Orissa Coast and passed by a curved path into Central Bengal. It gave a very heavy burst of rain, especially to North and Central Bengal. Rain continued in Bengal until the 17th when a partial break set in, lasting until the 23rd, when a storm formed in the north-west angle of the Bay. It passed northwards into Bengal, and gave more or less heavy rain to the whole of Bengal. Falls of five inches and upwards in 24 hours were recorded by a very large number of stations. The most noteworthy falls were 15·18 inches at Mirsarai in the Chittagong District on the 29th and 13·90 inches at Netrokona in the Mymensingh District on the 30th.

Light to moderate rain continued to fall daily in North-Eastern India and Burma until the 13th of July. A small cyclonic storm formed on the 12th and 13th at the head of the Bay. It advanced north-westwards across Chota Nagpur into the North-Western Provinces on the 15th, where it filled up during the next 24 hours. It gave moderate to heavy rain during its existence to Bengal and the Gangetic Plain. The following falls exceeding 10 inches were registered :—

District.	Station.	Date.	Rainfall during 24 hours preceding 8 A. M. of date.
			Inches.
Balasore	Chandbali	13th July	13·40
	Akhyapada	,,	10·09
Cuttack	Pal Lahara	,,	10·05

Moderate to general rain continued in the Gangetic Plain until the 21st and in Bengal until the 22nd. The break in the rains, which had commenced in North-Western India on the 18th, extended to the Gangetic Plain and Bengal on the 22nd and 23rd, and continued until the 26th, when winds increased very considerably in the south of the Bay. These strong winds extended rapidly northwards and gave increasing rainfall in North-Eastern India from the 27th. A cyclonic storm began to form on the 28th and 29th in the north-west angle of the Bay, the advance of which in the beginning of August gave a heavy burst of rain to Northern India.

The following gives the chief features in the distribution of rainfall during this period, June and July 1900 :—

(1) The rainfall of the period was in excess over practically the whole of Burma, Bengal, Assam Brahmaputra

and Bihar and in defect in Chota Nagpur and Orissa, as shown by the following data :—

Division.	Variation from normal of rainfall.			
	June.	July.	Total of period June and July.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Tenasserim	—1·54	—7·98	— 9·52	—11
Lower Burma Deltaic	+4·85	—0·55	+ 4·30	+10
Central „	+4·61	—1·62	+ 2·99	+11
Upper „	+1·93	+3·14	+ 5·07	+43
Arakan	—6·86	—8·91	—15·77	—16
Assam Surma	—5·43	+1·90	— 3·53	— 8
„ Brahmaputra	+0·96	+1·95	+ 2·91	+ 7
„ Hills	+0·04	—2·54	— 2·50	— 6
Eastern Bengal	+4·09	+3·13	+ 7·22	+21
Deltaic „	—0·52	—1·20	— 1·72	— 8
Central „	+0·89	—0·52	+ 0·37	+ 2
North „	—1·09	+3·36	+ 2·27	+ 6
Bengal Hills	—5·92	—2·01	— 7·93	—13
Orissa	—1·26	+0·11	— 1·15	— 6
Chota Nagpur	—0·69	—3·98	— 4·67	—21
South Bihar	+1·41	—3·09	— 1·68	— 9
North „	+2·47	+0·93	+ 3·40	+15

(2) The rainfall was in excess in the West Coast districts from Ratnagiri southwards to Calicut and in the West Deccan districts. The following gives data for the collectorates in this area of increased rainfall due to the Bombay current:—

District.	Variation from normal of rainfall.			
	June.	July.	Total of period June and July.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Ahmednagar	+0·86	+1·43	+2·29	+29
Sholapur	+0·67	—0·09	+0·58	+ 7
Bijapur	+1·63	—0·26	+1·37	+20
Belgaum	+1·31	+0·24	+1·55	+ 7
North Canara	+10·88	+10·77	+21·65	+35
South Canara	+7·33	+11·02	+18·35	+22
Malabar	+2·04	+7·58	+9·62	+15

(3) The rainfall of the period was in general defect over the whole of North-Western and Central India, as shown below:—

Area.	Variation from normal of rainfall.			
	June.	July.	Total of period June and July.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North-Western Provinces and Oudh	—2·58	—1·39	—3·97	—25
Punjab	—1·09	—1·29	—2·38	—33
Rajputana	—2·06	—1·80	—3·86	—43
Central India	—5·18	—2·50	—7·68	—39
Kathiawar and Cutch	—3·07	—6·90	—9·97	—64
Gujarat	—5·97	—9·40	—15·37	—62

(4) It was in considerable to large defect over the whole of the Peninsula, with the exception of Hyderabad and the Madras Deccan and of the districts for which data are given under (2)

The following gives comparative data :—

Area.	Variation from normal of rainfall			
	June.	July.	Total of period June and July.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Central Provinces	—4·37	—1·83	—6·20	—26
Berar	—2·80	—2·15	—4·95	—26
Khandesh	—1·85	+0·61	—1·24	—9
Konkan	—5·27	—1·96	—7·23	—11
Hyderabad	—0·34	+3·06	+2·72	+23
Madras Deccan	—0·23	+2·29	+2·06	+39

The following gives the chief features of the occurrence and distribution of rainfall in the second half of the monsoon period (August and September):—The south-west monsoon currents were fully and finally established over India during the last week of the previous month of July. They were unusually steady and strong during the greater part of August, though there was a partial break in the rains over Western and North-Western India during the last ten days of the month. General rain fell daily during the first three weeks of the month, and over part of Northern India throughout the whole month. One of the most noteworthy features of the month was the succession of cyclonic storms which passed from the Bay into Upper India and gave heavy to very heavy rain over the greater part of the country.

At the commencement of the month one of these cyclonic storms lay over the north-west of the Bay and the Orissa Coast and was giving heavy rain to the stations in South-West Bengal. At the same time the winds were blowing strongly on the Bombay and Kathiawar Coasts and moderate to heavy rain was falling over Bombay the Central Provinces, Gujarat, Rajputana, the west of Central India and the Punjab.

The storm from the Bay advanced into the North-Western Provinces reaching the west of those provinces on the 3rd, where it remained nearly stationary until the 8th, when it finally disappeared. General rain fell over Western, Central and Northern India during its existence.

As is usual when a strong monsoon is established in North-Western India, the rainfall was not heavy over the centre and east of the Peninsula.

On the 8th the second cyclonic storm of the month of August appeared over the north of the Bay. This storm intensified on the 10th, passed into Orissa on the 11th, reached the east of the Central Provinces on the 12th, the centre of the Central Provinces on the 13th and Rajputana on the 14th and 15th. Its principal feature was the excessive rain it occasioned during its passage through the Central Provinces and Rajputana and subsequently in the East Punjab. The following were the heaviest falls of rain in these areas exceeding 10 inches in amount:—

District.	Station.	Date.	Rainfall during 24 hours preceding 8 A.M. of date.
			Inches.
Raipur . . .	Dhamtari . . .	12th August .	10·26
Nagpur . . .	Umrer . . .	13th „ .	10·30

On the 15th a fresh depression, the third of the month, appeared over the north of the Bay. This storm proved to be the most important and most intense storm of the month. The centre crossed the Orissa Coast during the 18th, Chota Nagpur on the 19th, the south of the North-Western Provinces on the 20th, the east of Rajputana and the west of the North-Western Provinces on the 21st and disappeared on the 22nd. Heavy rain was again experienced by stations near the path of the storm, more particularly at those in Orissa, South-West Bengal and the Central Provinces. The largest amount recorded was 12·75 inches at Narsinghgarh in Bhopal.

A fourth depression appeared over the Bay on the 24th. This storm crossed the Orissa Coast during the 26th and advanced through Chota Nagpur into the North-Western Provinces, where it disappeared on the 31st.

It thus followed, like the third storm of the month, a fairly northerly path and the rainfall accompanying it was hence mainly confined to Bengal, the Gangetic Plain and the Central Provinces. The rainfall was not very heavy.

A partial break in the rains set in over the Peninsula and North-West India on the 18th, and though this break was to a certain extent interrupted by the action of the last storm of the month, the weather over the Peninsula and North-Western India was generally finer, drier and hotter than usual from the 18th till the close of the month.

The monsoon currents prevailed steadily in September until almost the end of the month, and the rainfall was hence heavier than usual over nearly the whole country. This was more particularly the case with regard to the Bay monsoon which continued to blow into Upper India as late as the 25th. The cyclonic storms of the month also presented unusual features, more particularly the storm of the second half of the month which was remarkable on two grounds, *viz.*, the unusually long period during which it existed and the remarkable halt which it made over the east of the Central Provinces.

From the 1st to the 9th the trough of low pressure extending roughly from the Punjab south-eastward to the north-west of the Bay was uninterruptedly present, and along this trough there passed a number of slight depressions travelling north-westward. These depressions were accompanied with more or less rain, and the area of rainfall progressed north-westward with the each succeeding depression. On the 10th an important change commenced. Barometric gradients began to increase over the south of the Peninsula and the south of the Bay and this change was apparently accompanied with a strong advance of monsoon winds over the Bay. This extension of monsoon winds was first noticeable in the heavy rainfall of the Tenasserim and Burma stations. On the 14th the advance of monsoon winds reached the head of the Bay and a depression which formed the principal feature of the weather during the second half of the month was developed in that area. The above depression passed from the head of the Bay westward through Orissa into the east of the Central Provinces between the 15th and the 17th, and on the 18th a second storm was shown at the head of the Bay. The second depression also passed westward and coalesced with the former storm on the 19th. From the 19th to the 22nd the combined storm was practically stationary over the east of the Central Provinces and South-West Bengal. During this time steep gradients for southerly winds prevailed on the eastern side of the storm and a flow of moist winds from the Bay into Lower Bengal took place and was accompanied with phenomenal rain over Deltaic Bengal. The most important of these falls are given below:—

District.	Station.	Date.	Rainfall during 24 hours preceding 8A.M of date.
Khulna . .	Kaliganj .	19th September	10·30
	Morellganj .	„ „ .	10·25
Jessore . . .	Bangaon . .	20th „ .	17·27
24-Parganas .	Diamond Harbour .	„ „ .	16·73
	Alipore . . .	„ „ .	14·53
Howrah . . .	Howrah . .	„ „ .	14·05
Khulna . . .	Rampal . .	„ „ .	13·00
24-Parganas . .	Basirhat . .	„ „ .	12·89
Hooghly . .	Serampore . .	„ „ .	12·31
	Do. . . .	21st „ .	16·65
24-Parganas .	Dum-Dum . .	„ „ .	11·34
	Alipore . .	„ „ .	10·83
Howrah . . .	Howrah . .	„ „ .	10·13

On the 22nd the storm commenced to move. It travelled slowly through the Central Provinces during the 23rd, 24th, 25th and 26th giving moderate to heavy rain to the central parts of the country.

On the afternoon of the 26th the storm entered the North-Western Provinces, passed through those provinces during the 27th, and filled up on the 28th. The storm occasioned heavy rain in Bihar.

On the 23rd, 24th and 25th there occurred a fall of snow on the North-West Himalayas and of rain over the plains of the North Punjab. The weather was again disturbed in a similar manner in the same area on the 27th and 28th. This was the termination of the monsoon rains in Upper India.

The following gives a statement of the chief abnormal features of the rainfall of the period including the months of August and September 1900.

(1) The rainfall of the period was in slight to moderate excess in Burma, as shown below :—

Division.	Variation of rainfall from normal.			
	August.	September.	Total of period August and September.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Tenasserim	+9·66	+14·36	+24·02	+39
Lower Burma	+8·26	+2·68	+10·94	+32
Central „	−0·76	+3·03	+2·27	+10
Upper „	+3·55	+0·65	+4·20	+30
Arakan „	+8·66	−1·22	+7·44	+14

(2) The rainfall of the period was in moderate to considerable defect in Assam and North and East Bengal. The following gives comparative data :—

Division.	Variation of rainfall from normal.			
	August.	September.	Total of period August and September.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam Surma	−8·12	−8·66	−16·78	−43
„ Brahmaputra . . .	−5·18	−5·87	−11·05	−41
„ Hills	−10·53	−9·37	−19·90	−48
Bengal, East . . .	−4·44	−1·26	−5·70	−21
„ North	−9·18	−4·43	−13·61	−41

(3) The rainfall of the period was very heavy and in large excess in South-West Bengal, Orissa, the Central Provinces, Central India and Rajputana, which areas all received more or less heavy rain from the cyclonic storms of the period :—

Division.	Variation of rainfall from normal.			
	August.	September.	Total of period August and September.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Deltaic Bengal	+0·99	+20·71	+21·70	+105
Central „	−2·95	+5·87	+2·92	+14
Orissa	+7·93	+6·30	+14·23	+63
Central Provinces, West . .	+6·54	+5·33	+11·87	+64
„ „ Central . .	+6·09	+6·47	+12·56	+60
„ „ East . .	+5·53	+10·70	+16·23	+81
Central India	+2·89	+2·20	+5·09	+26
Rajputana, East, and Central India, West.	+2·12	+5·41	+7·53	+56
West Rajputana . . .	+1·57	+3·23	+4·80	+89

(4) The rainfall of the period was in slight to large excess in the Punjab, the North-Western Provinces and Chota Nagpur and in moderate defect in Bihar, as is shown below :—

Area.	Variation of rainfall from normal.			
	August.	September.	Total of period August and September.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Punjab	+1·97	+4·89	+6·86	+90
North-Western Provinces and Oudh.	−1·83	+3·48	+1·65	+10
Bihar	−5·13	+2·12	−3·01	−15
Chota Nagpur	+0·93	+7·90	+8·83	+40

(5) The rainfall of the period was in slight to considerable excess in the west coast districts, as shown below :—

District.	Variation of rainfall from normal.			
	August.	September.	Total of period August and September.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North Canara	+5·62	−2·76	+2·86	+9
Ratnagiri	+7·01	−1·70	+5·31	+12
Kolaba	+20·63	+8·35	+28·96	+58
Thana	+21·00	+1·55	+22·55	+70
Malabar	+12·18	−1·30	+10·88	+46
South Canara	−0·02	+4·64	+4·62	+12

(6) The rainfall was in defect in both months in a part of the Deccan including the districts of Ahmednagar, Bijapur and Sholapur.

District.	Variation of rainfall from normal.			
	August.	September.	Total of period August and September.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Ahmednagar	−0·88	−3·57	−4·45	−46
Bijapur	−4·03	−2·22	−6·25	−38
Sholapur	−3·24	−5·26	−8·50	−64

(7) The rainfall was generally in defect over the remainder of the Peninsula, including the greater part of Madras and Hyderabad in August and above it in September and was for the whole of the period practically normal or in slight defect, as is shown below :—

Division.	Variation of rainfall from normal.			
	August.	September.	Total of period August and September.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Hyderabad, North	−2·16	+1·01	−1·15	−7
„ South	−3·02	+0·69	−2·33	−18
Madras, Central	−2·37	+0·76	−1·61	−17
„ East Coast Central	−2·82	+1·59	−1·23	−16
„ „ South	−3·07	+1·56	−1·51	−15
„ South	−0·55	+0·49	−0·06	−2

The following gives the chief features of the distribution of rainfall for the whole monsoon period, June to September and also June to October, in India.

(1) The rainfall of the period, June to October, was in slight to moderate excess in Burma with the exception of Arakan where it was nine per cent. in defect. The following gives data :—

Division.	Rainfall of period.							
	June to September.				June to October.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	Inches	Inches		Inches	Inches	Inches.	
Tenasserim	162·97	148·47	+14·50	+10	171·70	159·13	+12·57	+8
Lower Burma	91·71	76·47	+15·24	+20	98·77	85·05	+13·72	+16
Central „	53·53	48·27	+5·26	+11	58·66	54·05	+4·61	+9
Upper „	34·85	24·58	+9·27	+36	39·27	29·78	+9·49	+32
Arakan	144·84	153·17	−8·33	−5	147·88	162·38	−14·50	−9

(2) It was on the mean of the whole period, June to October, in slight to considerable defect in Assam and North and Esat Bengal :—

Division.	Rainfall of period.							
	June to September.				June to October.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	Inches	Inches.		Inches	Inches	Inches.	
Assam Surma	63·62	83·93	−20·31	−24	65·77	90·72	−24·95	−28
„ Brahmaputra	60·26	68·40	−8·14	−12	62·78	73·06	−10·28	−14
„ Hills	64·41	86·81	−22·40	−26	68·48	94·54	−25·56	−27
Bengal, East	64·16	62·64	+1·52	+2	66·36	68·27	−1·91	−3
„ North	62·34	73·68	−11·34	−15	63·96	78·28	−14·32	−18

(3) It was in slight to large excess in West and Central Bengal, Chota Nagpur, Orissa and the Central Provinces which received heavy to excessive rain from the cyclonic storms of August and September. The following gives comparative data :—

Division.	Rainfall of period.							
	June to September.				June to October.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	Inches	Inches.		Inches	Inches	Inches.	
Deltaic Bengal	63·14	43·16	+19·98	+46	65·76	47·67	+18·09	+38
Central „	46·32	43·03	+3·29	+8	47·75	46·59	+1·16	+2
Orissa	56·62	43·54	+13·08	+30	64·09	49·39	+14·70	+30
Chota Nagpur	48·83	44·67	+4·16	+9	51·00	47·57	+3·43	+7
Central Provinces, East.	56·38	44·49	+11·89	+27	59·91	46·55	+13·36	+29
Central Provinces, Central.	51·59	46·94	+4·65	+10	51·83	48·79	+3·04	+6
Central Provinces, West.	45·49	39·97	+5·52	+14	45·49	42·05	+3·44	+8

(4) It was practically normal in the northern districts of the North-Western Provinces and Bihar and in slight to moderate defect in the southern

divisions of these areas and in Central India, as shown below :—

Division.	RAINFALL OF PERIOD. June to September. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	June to October. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	Inches	Inches.		Inches	Inches	Inches.	
South Bihar .	33·19	37·21	—4·02	—11	35·87	39·81	—3·94	—10
North Bihar .	44·76	45·04	—0·28	—1	47·06	47·83	—0·77	—2
North-Western Provinces, East.	27·03	33·80	—6·77	—20	30·96	35·98	—5·02	—14
South Oudh .	30·91	32·13	—1.22	—4	31·41	33·73	—2·32	—7
North Oudh .	33·75	34·28	—0·53	—2	34·36	35·89	—1·53	—4
North-Western Provinces, Central	27·18	31·37	—4·19	—13	27·28	32·41	—5·13	—16
North-Western Provinces, West.	23·84	23·52	+0·32	+1	23·91	24·06	—0·15	—1
North-Western Provinces, East Submontane.	34·33	36·63	—2·30	—6	37·73	39·50	—1·77	—4
North-Western Provinces, West Submontane.	38·72	40·30	—1·58	—4	38·80	41·13	—2·33	—6
North-Western Provinces, Hills.	44·87	49·16	—4·29	—9	45·14	50·67	—5·53	—11
Central India .	36·39	38·98	—2·59	—7	36·67	40·48	—3·81	—9

(5) The rainfall of the period was, relatively to the normal, in moderate to large excess in Kathiawar, Rajputana and the Punjab (excepting the western division). The following gives comparative data :—

Division.	RAINFALL OF PERIOD. June to September. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	June to October. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	Inches	Inches.		Inches	Inches	Inches.	
South-East Punjab	24·90	20·40	+4·50	+22	25·07	20·76	+4·31	+21
South „ .	20·25	13·00	+7·25	+56	20·34	13·19	+7·15	+54
Central „ .	15·30	13·65	+1·65	+12	15·37	14·00	+1·37	+10
Punjab, Submontane.	36·73	24·14	+12·59	+52	36·76	24·52	+12·24	+50
Punjab, Hills .	52·43	44·53	+7·90	+18	53·65	45·43	+7 22	+16
North Punjab .	14·13	11·78	+2·35	+20	14 61	12·26	+2·35	+19
Kathiawar and Cutch.	28·81	26·63	+2·18	+8	28·81	27·32	+1·49	+5
Rajputana, East, Central India, West.	29·96	25·85	+3·11	+12	29·02	26·19	+2·83	+11
West Rajputana .	12·63	11·06	+1·57	+14	12·64	11·13	+1·51	+14

The excess was largest and most pronounced in the Submontane Punjab, where it was 50 per cent. and the South Punjab, where it was 54 per cent.

(6) The rainfall of the period was in slight defect in Baluchistan, the West Punjab and Sind, as shown below :—

Division.	RAINFALL OF PERIOD. June to September. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	June to October. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	nches	Inches.		Inches	Inches	Inches.	
West Punjab .	4·69	6·15	—1·46	—24	4·76	6·25	—1·49	—24
Baluchistan Hills.	1·67	2·32	—0·65	—28	1·67	2·42	—0·75	—31
Sind . . .	3·43	4·48	—1·05	—23	3·43	4·51	—1·08	—24

(7) It was below the normal in Gujarat, Khandesh, Berar, the greater part of the Deccan and the coast districts of Madras. The following gives data in illustration :—

Division.	RAINFALL OF PERIOD. June to September. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	June to October. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	Inches	Inches.		Inches	Inches	Inches.	
Khandesh . .	28·29	26·32	+1·97	+7	28·35	29·93	—1·58	—5
Berar . . .	31·61	34·99	—3·38	—10	31·61	37·48	—5·87	—16
Hyderabad, North	30·97	29·53	+1·44	+5	31·36	32·38	—1·02	—3
„ South .	23·51	22·98	+0·53	+2	24·41	25·92	—1·51	—6
Gujarat . .	34·51	42·21	—7·70	—18	34·51	43·57	—9·06	—21
Madras East Coast, North.	26·23	27·29	—1·06	—4	31·37	34·33	—2·96	—9
Madras, Central .	15·28	14·83	+0·45	+3	17·84	19·67	—1·83	—9
Madras East Coast, Central.	10·33	11·83	—1·50	—13	15·99	20·51	—4·52	—22
Madras East Coast, South.	13·91	14·87	—0·96	—6	20·73	23·13	—2·40	—10

The deficiency was most marked in East Coast, Central, in which it averaged 22 per cent., and Gujarat where it was 21 per cent.

(8) It was in slight to considerable excess in the West Coast districts, the Bombay Deccan, Mysore and the South and South-Central divisions of Madras—

Division.	Rainfall of period. June to September. Average actual 1900.	June to September. Average normal.	June to September. Variation of actual from normal.	June to September. Percentage variation from normal.	June to October. Average actual 1900.	June to October. Average normal.	June to October. Variation of actual from normal.	June to October. Percentage variation from normal.
	Inches	Inches	Inches.		Inches	Inches.	Inches	
Konkan. .	113·19	106·10	+7·09	+7	113·74	111·73	+2·01	+2
Malabar .	121·79	100·20	+21·59	+22	128·21	109·54	+18·67	+17
Bombay Deccan.	30·40	26·86	+3·54	+13	31·37	31·25	+0·12	0
Mysore .	29·32	20·42	+8·90	+44	34·87	25·91	+8·96	+35
Madras, South-Central.	13·58	11·74	+1·84	+16	19·24	17·88	+1·36	+8
Madras, South	5·98	5·60	+0·38	+7	13·60	12·39	+1·21	+10

(9) The rainfall of the period, June to October, was above the normal in 26 divisions. The excess was small to moderate in amount in nineteen of these divisions, and exceeded 25 per cent. in the divisions for which comparative data are given below :—

Division.	Rainfall of period June to October. Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Upper Burma	39·27	29·78	+ 9·49	+32
Deltaic Bengal	65·76	47·67	+18·09	+ 38
Orissa	64·09	49·39	+14·70	+ 30
South Punjab	20·34	13·19	+ 7·15	+ 54
Punjab Submontane . . .	36·76	24·52	+12·24	+ 50
Mysore	34·87	25·91	+ 8·96	+ 35
Central Provinces, East . .	59·91	46·55	+13·36	+ 29

The rainfall of the period, June to October, was below the normal in 30 divisions. The deficiency was generally small in percentage amount, but exceeded 25 per cent. in the divisions for which comparative data are given below: —

Division.	Rainfall of period June to October. Average actual 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam Surma	65·77	90·72	—24·95	—28
Hills	68·98	94·54	—25·56	— 27
Baluchistan Hills	1·67	2·42	— 0·75	— 31

IV.—The retreating south-west monsoon period.—This season was unusually dry over the greater part of India, including Central and North-Eastern India and the Deccan.

October 1900 was characterized by finer weather than usual over the greater part of the country. Two storms, which is about the normal average number, appeared over the Bay during the month. The first formed in the centre of the Bay, and travelling along a curved course passed through Orissa, the east of the Central Provinces and West Bengal. This storm gave moderate rain along its course, but did not seriously affect the weather outside the storm area. The second storm formed in the south-west of the Bay, and drifting north-westwards struck the Madras Coast to the north of Madras, and apparently broke up among the broken ground of the interior of the Peninsula. This storm occasioned heavyish rain over the south of the Peninsula. The rainfall of the month was hence normal or in slight excess over Southern India, while elsewhere it was generally lighter than usual. Over North-Western and Central India practically no rain fell throughout the month.

The weather over India during November was exceptionally quiet and fine and was of an uniform character throughout. One or two very slight and feeble disturbances of the cold weather type appeared in the extreme north-west, but, except on one occasion, when rain followed and temperature fell quickly, they occasioned no important change in the weather.

The rainfall and snowfall of the month were heavy over the north-west frontier of India and over the countries to the westward, but the fall ceased at the frontier and with a few local exceptions the whole of Northern and Central India and the head of the Peninsula were actually or practically rainless. Occasional rain was, however, received in Burma and Assam and over the southern half of the Peninsula. The rainfall was in excess of the normal in Tenasserim, Baluchistan, Western Rajputana and South Madras; it was normal in the Brahmaputra Valley and more or less in defect elsewhere.

There was no cyclonic storm over the Bay during the month and hence there were no very heavy falls of rain over the Peninsula, though slightly disturbed conditions occurred at times and the rainfall temporarily increased in amount in the extreme south during these periods.

The rainy unsettled weather which prevailed over Persia, Baluchistan and Afghanistan during November extended into Northern India during December. A series of cold-weather storms entered North-West India from the westward during the second half of the month, and passing eastward gave an excess of rain all over Northern India, as well as at some central stations. The excess was (relatively to the normal) great over Rajputana, the Punjab and the North-Western Provinces, and was absolutely greatest in the hill division of the Punjab. This excess of rainfall did not, however, extend beyond West Bengal, and Bengal, Assam and Burma had less rain than usual during the month. Over the west of the Peninsula the rainfall was very scanty, and large parts of the Bombay Presidency were practically rainless. On the other hand, the Madras Coast (except the north division) and the interior of Madras received about the normal amount.

The following are the chief features of the rainfall of the period in India :—

(1) The rainfall of the period was in considerable excess in the Western Himalayas and Baluchistan, chiefly due to the passage of three cold-weather storms across North-Western India in the last fortnight of December. The following gives data for eleven representative stations :—

Station.	Variation of rainfall from normal.				
	October 1900.	November 1900.	December 1900.	Total of period October to December.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
Quetta	—0·07	+1·40	+3·51	+4·84	+452
Kalat	—0·07	+0·88	+4·18	+4·99	+489
Chaman	—0·09	+0·97	+2·04	+2·92	+154
Pishin	—0·06	—0·75	+2·32	+1·51	+ 69
Srinagar	+1·27	—0·25	+1·64	+2·66	+155
Leh	—0·13	—0·03	0	—0·16	— 32
Kailang	—0·35	—0·50	+2·27	+1·42	+ 70
Kilba ♀	—0·72	—1·97	+3·73	+1·04	+ 24
Simla	—1·04	—0·54	+2·85	+1·27	+ 51
Chakrata	—0·82	—0·59	+4·89	+3·48	+167
Ranikhet	—1·35	—0·38	+1·55	—0·13	— 6

(2) The rainfall of the period was also in excess in the plains areas affected by the storms in December which gave increased precipitation in the hills. The following gives comparative data for these areas :—

Area.	Average actual rainfall.			Average actual rainfall during period October to December 1900.	Average normal rainfall during period October to December.	Percentage variation from normal.
	October 1900.	November 1900.	December 1900.			
	Inches.	Inch.	Inches.	Inches.	Inches.	
Punjab	0·13	0·05	1·16	1·36	0·88	+ 55
North-Western Provinces and Oudh.	1·24	0	1·33	2·57	1·93	+ 33
Bihar	2·49	0	0·59	3·08	3·01	+ 2
Rajputana	0·04	0·12	0·44	0·60	0·58	+ 3
Sind	0	0·05	0·62	0·67	0·21	+219

(3) The precipitation of the period was in defect in Bengal, Assam, Burma and Orissa, due to the early withdrawal of the monsoon from these areas—

Area.	Average actual rainfall.			Average actual rainfall during period October to December 1900.	Average normal rainfall during period October to December.	Percentage variation from normal.
	October 1900.	November 1900.	December 1900.			
	Inches.	Inch.	Inch.	Inches.	Inches.	
Burma	5·68	0·89	0·11	6·68	10·15	—34
Assam	2·34	0·28	0·43	3·05	7·15	—57
Bengal	1·97	0·07	0·06	2·10	5·49	—62
Orissa	7·47	0·05	0·01	7·53	8·26	— 9

(4) The rainfall of the period was very scanty and in large defect over the whole of the interior of the Peninsula and also in the West Coast and North Madras Coast districts. This was due to the abnormally early withdrawal of the monsoon current from the Bay. The following table gives data :—

Division.	Average actual rainfall.			Average actual rainfall during period October to December 1900.	Average normal rainfall during period October to December.	Percentage variation from normal.
	October 1900.	November 1900.	December 1900.			
	Inches.	Inch	Inch.	Inches.	Inches.	
Berar	0	0	0·04	0·04	3·67	—99
Central Provinces	1·26	0	0·35	1·61	2·79	—42
Hyderabad	0·65	0·23	0	0·88	4·62	—81
Mysore	5·55	0·30	0·17	6·02	8·68	—31
Konkan	0·55	0·09	0	0·64	6·87	—91
Malabar	6·42	0·96	0·51	7·89	13·55	—42
Bombay Deccan	0·92	0·11	0	1·08	6·24	—83
Madras "	2·56	0·46	0·44	3·46	7·43	—53
Madras East Coast North.	5·14	0·70	0	5·84	10·33	—43

(5). South Madras received occasional rain throughout the period and the rainfall was in slight to moderate excess on the mean of the whole area. The following gives comparative data for the two districts in that area :—

District.	Variation of Rainfall during			
	October 1900.	November 1900.	December 1900.	Period October to December
	Inches.	Inches.	Inch.	Inches.
Madura	—0·19	—0·85	+0·42	—0·63
Tinnevelly	2·03	+3·77	—0·01	+5·79

The year.—The rainfall of the year for the whole of India, as determined by the method employed by Mr. Blanford (and which gives the normal annual rainfall as 41·09 inches), averaged 0·57 inch below the normal.

The average rainfall of the Indian area was considerably above the normal in the cold weather, slightly below it in the hot weather and considerably below in the retreating south-west monsoon and normal in the south-west monsoon.

The following gives comparative data for the whole of India (excluding Burma and the hill divisions) based on the arithmetical means of the actuals and normals for the 46 rainfall divisions (irrespective of extent of area):—

Period.	Rainfall.			
	Average actual of period.	Average normal of period.	Variation from normal	Percentage variation from normal.
	Inches.	Inches.	Inch.	
Cold weather	1·19	0·99	+0·20	+20
Hot weather	4·19	4·58	−0·39	− 9
South-west monsoon	38·19	37·95	+0·24	+ 1
Retreating south-west monsoon	1·28	1·80	−0·52	−29
Whole year	44·85	45·32	−0·47	− 1

The rainfall of the year was practically normal in amount (*i.e.*, the variation from the normal was less than 10 per cent.) in twenty-two out of the fifty-one rainfall districts (omitting Burma) into which India is divided :—

Division.	Rainfall.			
	Average actual of year, 1900	Average normal of year.	Variation of actual from normal	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Eastern Bengal	81·53	88·64	− 7·11	−8
Central Bengal	55·86	56·27	− 0·41	−1
South Bihar	41·73	43·86	− 2·13	−5
North Bihar	52·64	53·68	− 1·04	−2
North-Western Provinces, East	36·91	38·25	− 1·34	−4
South Oudh	36·26	36·10	+ 0·16	0
North Oudh	38·67	38·95	− 0·28	−1
North-Western Provinces, Central	31·09	34·29	− 3·20	−9
„ „ West	26·72	26·33	+ 0·39	+1
„ „ Submontane (East.)	43·92	42·50	+ 1·42	+3
„ „ Submontane (West.)	45·74	46·36	− 0·62	−1
„ „ Hills	60·29	61·19	− 0·90	−1
Central Punjab	19·25	18·87	+ 0·38	+2
Malabar	135·89	125·07	+10·82	+9
Madras South Central	28·50	29·33	− 0·83	−3
Konkan	114·21	115·19	− 0·98	−1
Bombay Deccan	33·25	35·99	− 2·74	−8
Hyderabad, North	32·60	35·86	− 3·26	−9
Central Provinces, West	46·61	44·67	+ 1·94	+4
„ „ Central	54·41	51·53	+ 2·88	+6
Kathiawar and Cutch	29·39	28·19	+ 1·20	+4
Baluchistan Hills	10·14	9·38	+ 0·76	+8

The rainfall was 10 to 25 per cent. in excess in the rainfall districts for which data are given below :—

Division.	Rainfall.			
	Average actual of year 1900.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Orissa	71·63	59·76	+11·87	+ 20
Chota Nagpur	59·25	54·00	+5·25	+10
South-East Punjab	28·63	23·54	+5·09	+22
Punjab Hills	72·30	62·14	+10·16	+16
North Punjab	26·52	21·28	+5·24	+25
Mysore	39·17	34·46	+4·71	+14
Rajputana East and Central India	31·09	28·18	+2·91	+10
West Rajputana	13·76	12·53	+1·23	+10
Madras, South	33·29	28·54	+4·75	+17

The rainfall of the year was over 25 per cent. in excess in the following divisions :—

Division.	Rainfall.			
	Average actual of year, 1900.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Deltaic Bengal	77·09	60·58	+16·51	+27
South Punjab	22·59	16·00	+6·59	+42
Punjab Submontane	43·41	30·86	+12·55	+41
Central Provinces, East	63·86	50·08	+13·78	+28

The increased rainfall in two of these divisions was mainly due to the excessive rain which fell in these areas during the storm of September.

The rainfall of the year was between 10 and 25 per cent. in defect in fourteen divisions, for which comparative data are given in the following table :—

Division.	Rainfall.			
	Average actual of year, 1900.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam, Surma	109·48	133·61	−24·13	−18
Assam Hills	97·56	125·56	−28·00	−22
Assam, Brahmaputra	89·61	99·70	−10·09	−10

Division.	Rainfall. Average actual of year 1900.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North Bengal	76·55	95·04	−18·49	−19
West Punjab	7·99	8·90	−0·91	−10
Khandesh	28·44	32·77	−4·33	−13
Berar	32·02	40·56	−8·54	−21
Gujarat	34·86	44·21	−9·35	−21
Central India, East	38·71	42·91	−4·20	−10
Madras East Coast, North	36·77	41·52	−4·75	−11
Hyderabad, South	26·28	29·96	−3·68	−12
Madras, Central	21·34	24·84	−3·50	−14
Madras East Coast, Central	24·81	33·17	−8·36	−25
,, ,, South	36·50	41·57	−5·07	−12

The rainfall of the year was more than 25 per cent. below the normal in two divisions only—

Division.	Rainfall. Average actual of year 1900.	Average normal of year.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Bengal Hills	100·77	137·56	−36·79	−27
Sind	4·38	6·00	−1·62	−27

The rainfall of the year was less than three inches in amount at thirteen raingauge stations in the Punjab, Sind Baluchistan and Kashmir. The following gives data for these stations:—

Area.	Station.	Total annual rainfall.
		Inches.
Punjab	Toba Teksingh	0·36
	Alipur	1·89
	Muridwala	2·90
Sind	Mehar	1·21
	Rohri	1·60
	Karachi	2·24
	Sehwan	2·32
	Nanshahro	2·33
	Shikarpur	2·59
	Jerruck	2·91
	Tatta	2·94
Baluchistan	Jhatpur	2·33
Kashmir	Gilgit	2·79

Rainfalls exceeding two hundred inches in the year were received at the following stations:—

Province.	Station.	Rainfall. Actual of year, 1900.	Normal of year.
		Inches.	Inches.
Burma	Tavoy	234·87	215·49
	Thayetchaung	217·96	?
	Launglôn	229·11	?
	Yebyu	288·74	?
	Sandoway	209·62	215·73
Assam	Cherra Poonjee (Police Station).	445·39	445·37
Bombay	Mandangad	203·94	?
	Matheran	233·66	210·24
	Malcolmpeth	333·78	?
	Lanoli	241·95	162·66
Mysore	Sringeri	213·82	?
Madras	Peermade	265·35	?
	Vayittri	264·49	164·82
	Beltangadi	206·77	171·32
	Karkala	209·85	186·52
	Devala	221·22	152·45
Coorg	Dunkeld Estate	253·80	?

The following gives the heaviest rainfalls in 24 hours exceeding 15 inches recorded during the year 1900:—

Province.	District.	Station.	Date and month.	Rainfall during 24 hours preceding 8 A.M. of date.
				Inches.
Bengal	Chittagong	Mirsarai	29th June	15·18
	Hooghly	Serampore	21st September	16·65
	24—Pargaṇas	Diamond Harbour.	20th ,,	16·73
	Jessore	Bongaon	20th ,,	17·27
North-Western Provinces.	Gorakhpur	Maharajganj	28th ,,	17·31

The following gives a statement of the variation of the mean rainfall of India (excluding Burma) during the past 26 years :—

Year.	Number of divisions.			Rainfall.			
	Fall excessive.	Fall normal.	Fall deficient.	Average actual.	Average normal.	Variation from normal.	Percentage variation.
				Inches.	Inches.	Inches.	
1875	16		8	43·47	41·09	+2·38	+ 6
1876	6		18	36·60	41·09	−4·49	−11
1877	10		14	36·81	41·09	−4·28	−10
1878	17	3	6	47·43	41·09	+6·34	+15
1879	16	2	6	42·78	41·09	+1·69	+ 4
1880	13	3	10	39·53	41·09	−1·56	− 4
1881	15		9	41·19	41·09	+0·10	0
1882	17	2	6	43·73	41·09	+2·64	+ 6
1883	11	4	12	40·97	41·09	−0·12	0
1884	12		19	42·82	41·09	+1·73	+ 4
1885	15		7	42·14	41·09	+1·05	+ 3
1886	14		8	44·41	41·09	+3·32	+ 7
1887	11		16	43·51	41·09	+2·42	+ 6
1888	10		12	39·55	41·09	−1·54	− 4
1889	15		8	43·50	41·09	+2·41	+ 6
1890	14	1	8	41·77	41·09	+0·68	+ 2
1891	6		17	37·55	41·09	−3·54	− 9
1892	15		8	46·18	41·09	+5·09	+12
1893	22		1	50·16	41·09	+9·07	+22
1894	17		6	47·56	41·09	+6·47	+16
1895	5		17	38·90	41·09	−2·19	− 7
1896	7	2	14	36·26	41·09	−4·83	−12
1897	10	2	11	40·94	41·09	−0·15	0
1898	10	3	10	41·52	41·09	+0·43	+ 1
1899	6		17	29·95	41·09	−11·14	−27
1900	10		13	40·52	41·09	−0·57	− 1

Concluding Summary.

I.—Cold weather period, January and February 1900.—The following table gives mean variation data of the more important meteorological elements for the cold-weather period, January, and February 1900:—

Meteorological Provinces.	January and February 1900. Variation from normal of mean monthly pressure.	Variation from normal of mean maximum temperature.	Variation from normal of mean minimum temperature.	Variation from normal of mean aqueous vapour pressure.	Variation from normal of mean relative humidity.	Variation from normal of mean cloud amount.	Total variation from normal of average actual rainfall.	Percentage variation from normal of rainfall.
	"	°		"			Inches.	
Burma Coast and Bay Islands.	—·006	+1·3	+3·2	+·040	+1	—0·3	—0·40	— 45
Burma Inland . .	+·021	+1·0	+2·7				—0·27	— 69
Assam . . .	—·006	+0·8	+2·0				—0·83	— 34
Bengal and Orissa .	—·009	+1·9	+3·9	+·087	+ 2	+2·1	+0·05	+ 4
Gangetic Plain and Chota Nagpur.	—·014	+0·2	+3·1	+·041	+ 5	+2·1	+1·58	+126
Upper Sub-Himalayas	—·010	+0·1	+1·3	—·023	— 6	+0·6	—0·39	— 14
Indus Valley and North-West Rajputana.	—·002	—0·3	—0·7	—·038	— 7	+0·1	—0·44	— 45
East Rajputana, Central India and Gujarat.	—·008	+0·2	+1·1	—·066	—11	+0·5	—0·27	— 57
Deccan . . .	—·014	+3·7	+3·7	—·049	—10	+0·9	—0·10	— 21
West Coast . .	+·001	—0·8	+0·8	—·028	— 3	+0·3	—0·07	— 18
South India . .	—·005	+2·8	+2·4	0	— 4	+0·4	—0·30	— 39

The pressure variations were slight to moderate in amount. Pressure was below the normal over nearly the whole of India, except perhaps the interior of Burma, for which, however, the data are doubtful.

The deficiency was greatest in the Gangetic Plain and Chota Nagpur and the Deccan.

The mean maximum temperature of the period was in excess over the greater part of India. The excess was greatest in the Deccan where it averaged 3°·7 and Southern India for which it averaged 2°·8. It was in defect in the West Coast, Sind and North-West Rajputana, but the variations were small in those areas. The mean minimum temperature of the period was in excess over the whole of India, except the Indus Valley and North-West Rajputana. The excess was greatest in amount in Bengal and Orissa (+3°·9), the Deccan (+3°·7), Burma Coast and Bay Islands (+3°·2) and the Gangetic Plain and Chota Nagpur (+3°·1). The mean temperature of the period was above the normal in all divisions except the Indus Valley and North-West Rajputana, where it was 0°·5 below the normal, and the west coast where it was normal.

The air contained less aqueous vapour than usual over the whole of India except in the area of increased rainfall including the Gangetic Plain and Bengal and also in Burma. The deficiency was greatest in Sind, Rajputana, Central India, Gujarat and the Deccan. Humidity was below the normal in all divisions except Burma, Bengal and the Gangetic Plain where it was in slight excess on the mean of the period. The decreased humidity was most marked in the Deccan, East Rajputana, Central India and Gujarat where the deficiency averaged 11. There was also more cloud than usual over the whole area except Burma due to the passage of a succession of eight cold weather storms, of which six were feeble, across Northern India between the middle of January and the end of February. The excess of cloud was very marked in the area of heavier rainfall than usual including Bengal, the Gangetic Plain and Chota Nagpur.

The rainfall of the period was more or less in defect over the whole of India with the exception of Bengal, Orissa and the Gangetic Plain. It was in large excess in the Gangetic Plain.

The chief features of the cold weather season were the prevalence of fine weather in the first half of January and the occurrence of a series of very feeble storms in February which gave much cloud but little rain in North-Western India and moderately heavy rain in North-Eastern India.

A reference to the monthly weather summaries for the year 1900, will show that there was a considerable resemblance between the cold weather period of that year and those of the years 1892, 1896, 1897, 1898 and 1899. These periods were *with one exception* marked by a considerable excess of temperature and by decreased humidity, cloud and rainfall in North-Western India. The following gives comparative data for the cold weather periods of the years 1892 to 1900 for the area including the Punjab, Rajputana, the North Western-Provinces and Bihar.

Cold weather period of	Variation from normal in North-Western India of: Temperature	Humidity.	Cloud.	Rainfall.
	°			Inches.
1900	+0·7	—4	+0·7	+0·59
1899	—0·5	—6	—0·9	—0·51
1898	+1·1	—1	—1·0	+1·22
1897	+1·2	—2	—0·4	—0·12
1896	+2·0	—3	—0·5	—0·72
1895	+0·8	+5	—0·2	+0·43
1894	+0·6	+10	+1·3	+0·92
1893	—4·2	+11	+1·4	+2·04
1892	+2·5	—2	—0·2	—0·37

The variations of the temperature and humidity conditions in the cold weather of 1899-1900 were determined

by the distribution of rainfall during the period, and hence by the distribution and character of the cold weather storms of December 1899 and of January and February 1900.

The chief characteristics of the storms of that period were as follows :—

(1) The number of depressions and cold weather disturbances were less than the normal, in January, but greater than usual in February. Two appeared in January and six in February.

(2) The disturbances were (with the exception of the two storms in January) feeble and ill-defined, and did not give rise to deep secondary depressions in the Punjab.

(3) The precipitation accompanying these disturbances in February in the Afghan and Himalayan areas fell as rain to higher levels than in normal cold weather periods.

(4) The precipitation accompanying the two disturbances in January occurred chiefly in North-Western India and in February in North-Eastern India.

The preceding remarks indicate that the chief features of the cold weather storms of 1899-1900 were fairly persistent throughout the greater part of the season.

An examination of the pressure and other conditions obtaining in India before and during the cold weather periods of these two years throws little or no light on the abnormal features of these storms, and suggests that they were related either to conditions in the upper atmosphere over Northern India, or to conditions outside of India.

The following table gives vertical pressure anomalies for the cold weather period of 1899-1900 :—

Pair of stations.	Vertical pressure anomaly.						
	September 1899.	October 1899.	November 1899.	December 1899.	January 1900.	February 1900.	Mean of period November 1899 to February 1900.
	"	"	"	"	"	"	"
Leh and Lahore .	+·018	+·013	+·021	+·009	—·049	+·049	+·008
Quetta and Jacobabad.	+·010	—·005	+·020	+·030	—·015	+·040?	+·019
Murree and Peshawar.	—·001	+·027	+·048	+·042	+·024	+·045	+·040
Simla and Ludhiana.	+·022	+·015	+·029	+·014	—·006	+·011	+·012
Chakrata and Roorkee.	+·024	+·029	+·032	+·024	0	+·030	+·022
Ranikhet and Bareilly.	+·020	+·018	+·023	+·020	+·021	+·028	+·023
Darjeeling and Dhubri.	+·006	+·001	+·014	+·013	+·022?	+·026?	+·019?
Mount Abu and Deesa.	—·039	—·009	—·008	+·018	—·037	—·003	—·008
Pachmarhi and Hoshangabad.	?	+·005	+·011?	+·004?	—·023	—·013	—·005

The following table gives the mean vertical pressure anomalies for the cold weather periods, November to February, of the past seven years for comparison :—

Pair of Stations.	Vertical Pressure Anomaly.						
	1899-1900.	1898-1899.	1897-1898.	1896-1897.	1895-1896.	1894-1895.	1893-1894.
	"	"	"	"	"	"	"
Leh and Lahore .	+·008	+·038	+·040	+·013	+·041	+·009	—·004
Quetta and Jacobabad.	+·019	+·027	+·050	—·007	+·019	+·001	+·006
Muree and Peshawar	+·040	—·012?	+·041	+·006	+·022	—·006	?
Simla and Ludhiana .	+·012	+·005	+·019	—·003	+·012	—·017	—·015
Chakrata and Roorkee.	+·022	+·019	+·028	+·023	+·030	+·010	—·010
Ranikhet and Bareilly.	+·023	+·011	+·018	+·021	+·025	+·003	+·011?
Darjeeling and Dhubri.	+·019?	—·010	?	+·004	+·007	+·001	+·017
Mount Abu and Deesa .	—·008	—·006	—·002	—·008	+·005	—·007	+·003
Pachmarhi and Hoshangabad.	—·005	—·015	—·017	+·013	?	+·013	?

Hence in the cold weather of 1899-1900 the vertical pressure anomalies in North-Western India were generally positive and slight to moderate in amount, indicating increased pressure in the middle atmospheric strata relatively to the lower strata. The feature was slightly exhibited in September and was persistent in October and November. There was a tendency to a change to the opposite condition in January at all the groups of the stations except Murree, Ranikhet and Darjeeling but the feature was fully re-established in February.

The relative excess of pressure was moderate in November and December 1899 and also in February 1900. The cold weathers of 1895-96, 1896-97 and 1898-99 resembled more or less closely in the horizontal and vertical pressure conditions and the character and distribution of the rainfall accompanying the cold-weather storms to that of 1899-1900.

The rainfall of the cold weather seasons of 1895-96, 1896-97 and 1898-99 in Upper India was below the normal.

The rainfall of the cold weather of 1899-1900 was more or less below the normal over the greater part of North-Western and Central India.

An examination of the Indian monsoon area charts and of the charts in the weekly weather reports issued by the English Meteorological office indicates the conditions which obtained in Europe during the inception of the storms of the period.

The following gives a list of the more important cold weather storms of 1899-1900 and of the conditions

obtaining in South-East and South Europe during their formation :—

Date and character of storm.	Area of formation.	Weather conditions in East, South-East and South Europe prior to and during the formation of a storm.
Cold-weather storm of the 11th and 12th January in Persia, and 13th to 18th in Northern India	Asiatic Turkey	High pressure conditions obtained over South-East and South Europe throughout the month of January except for a short period from the 6th to the 14th, when a depression lay over Italy and the neighbouring parts of the Mediterranean.
Cold-weather storm of the 17th to 19th January in Persia, and 20th to 25th January in Northern India.	West Persia.	
Cold-weather storm of the 5th and 6th February in Persia, and 7th and 8th in Baluchistan and Sind.	West Persia.	High pressure conditions prevailed over the whole of South, South-East and East Europe from the 1st to the 7th.
Cold-weather storm of the 7th to 9th February in Persia and 10th to 12th in Northern India.	Probably West Persia. (?)	A depression appeared over the south-west of Spain on the 7th and drifted eastwards during the next two days to the neighbourhood of Italy where it filled up on the 11th.
Cold-weather storm of 12th to 15th February in Persia, and 16th to 18th in Northern India.	Asiatic Turkey	Low pressure conditions obtained over South-East Europe from the 15th to the 19th, but they were apparently not transmitted eastwards
Cold-weather storm of the 17th to 19th February in Persia and 20th and 21st in North-Western India.	Asiatic Turkey	
Cold-weather storm of the 21st and 22nd February in Persia, and 23rd to 25th in Northern India.	Asiatic Turkey	High pressure conditions obtained in South-East, East and South Europe on the 20th and preceding days.
Cold-weather storm of 24th to 26th in Persia, and 27th and 28th in Baluchistan and North-West India.	West Persia.	A depression formed over Italy on the 21st and moving eastwards passed into Turkey and Asia Minor on the 23rd. It apparently filled up in that area during the next two days.

The preceding data indicate clearly that the cold weather storms of 1899-1900 in India were not, in the majority of cases, the continuation of European storms and that anti-cyclonic conditions prevailed to the north and north-west of Baluchistan or Persia during the initiation of most of these storms. The sixth and eighth depressions or storms followed the march of depressions across South-East Europe and may perhaps have been the continuation of these depressions. The evidence is, however, very slight and imperfect.

The preceding discussion has shown that the rainfall was irregularly distributed over Northern and Central India during the cold weather of 1899-1900. It was below the normal in Sind, the greater part of the Punjab, Rajputana and Central India, but was more or less in excess in the North Punjab, Gangetic Plain and Bengal. The cold weather rainfall was below the normal in North-Western India during the cold weather periods of 1891-92, 1895-96, 1896-97, and 1898-99, and there has been a marked tendency during the preceding five cold weathers to deficient precipitation in the Persian area and North-Western India. The following tables giving the available data will show that the deficiency was as marked at Baghdad and in Persia and Afghanistan during the cold weather of 1899-1900 as during the preceding five corresponding seasons.

RAINFALL OF PERIOD DECEMBER TO FEBRUARY.

STATION OR PROVINCE.	Normal of period.	Variation from normal in 1891-92.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1901.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baghdad	6·03		+0·51	- 2·78	—2·10	—4·50	—3·28	—4·10
Teheran	3·49		—0·68	+0·98	—1·03	—0·58	—0·36	—2·03
Ispahan	0·60		—0·15	+0·08	+1·07	+0·09	+0·71	—0·55
Bushire	9·61	—5·89	—6·33	—3·49	—6·86	—4·30	+2·84	—2·53
Jask	2·47		—1·34	—0·80	—2·36	—1·97	+3·54	+0·93
Quetta	5·05	—3·21	+0·34	—0·77	—2·30	—2·61	+0·20	+1·38
Kashgar	0·69		—0·74	—0·20	—0·82	—0·82	+0·22	—0·59
Kalat	5·11			—2·30	—3·37	—2·93	—2·70	+2·50
Chaman	4·63		—2·26	—0·05	—3·03	—1·39	+1·54	+1·21
Kabul	1·85		—1·85	+4·95	—1·47	—1·85	—2·10	—1·80
Punjab	2·22	—1·47	—0·59	+0·17	+7·63	—0·83	—0·63	+2·02
Rajputana	0·78		—0·38	—0·27	+0·24	—0·32	—0·68	+0·56
Sind	0·82	—0·63	—0·53	—0·65	—0·20	—0·78	+1·06	+0·15
North-Western Provinces and Oudh.	1·52	—0·43	—1·05	+0·21	+1·26	—0·26	—0·79	+3·39

RAINFALL OF PERIOD OCTOBER TO MARCH.

STATION.	Normal of period.	Variation from normal in 1891-92.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1901.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baghdad	9·03		+2·61	—5·03	—3·18	—6·25	—4·07	—5·08
Teheran	7·73		—0·52	+0·99	—0·67	—3·33	—2·73	—3·01
Ispahan	3·27	—4·56	+0·85	+1·73	—0·26	—1·65	—0·24	—0·80
Bushire	13·30		—7·67	+4·49	—5·30	—4·76	+0·91	—2·60
Jask	4·38	—4·15	—0·73	+2·11	—1·91	—2·96	+2·43	+0·20
Quetta	7·09		+1·74	+0·45	—0·76	—2·49	—0·66	+2·16
Kashgar	1·05		—0·61	+0·50	?	—1·18	+0·06	—0·95
Kalat	7·08		?	+3·08	—3·07	—4·67	—3·40	+2·76
Chaman	6·59		—2·39	+0·03	—2·96	—2·17	+0·18	+1·49
Kabul	8·73		+2·27	+2·60	—4·30	—4·58	—3·63	—3·45

The preceding data show that the winter rainfall and precipitation of the cold weather of 1899-1900 was largely in defect in Asiatic Turkey, Persia and Afghanistan. The facts hence continue to point strongly to the conclusion stated in the Annual Summary for 1899 that deficient cold weather rainfall in North-Western India is not a local incident but is associated with deficiency over the large area to the west of Northern India, including Persia, Baluchistan and Asiatic Turkey, and hence that it is not due to abnormal conditions affecting North-Western India only, but to conditions of a much more general character that have not yet been fully investigated.

The character of the rainfall during the cold weather of 1900-1901, for which data are also given in the table, appears to indicate that the conditions which have prevailed during the past six years determining deficient rainfall over the Persian area and North-Western India are probably passing away.

II.—Hot weather, March to May 1900.—The following table gives the mean variations of the more important meteorological elements in the eleven meteorological provinces of India for the hot weather period, March to May, 1900:—

Meteorological Province.	Hot weather period, 1900. Variation from normal of mean pressure.	Variation from normal of mean maximum temperature.	Variation from normal of mean minimum temperature.	Variation from normal of mean aqueous vapour pressure.	Variation from normal of mean relative humidity.	Variation from normal of mean cloud amount.	Total variation of average actual rainfall of period from normal.	Percentage variation from normal of rainfall.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	+·018	+0·8	+1·9	+·019	−1	+0·2	−3·23	−20
Burma Inland	+·026	+1·0	+1·2				−1·04	−16
Assam	+·029	−0·6	−0·4				+5·98	+20
Bengal and Orissa.	+·030	+0·8	+0·4	+·012	−2	+0·2	−1·69	−15
Gangetic Plain and Chota Nagpur.	+·030	+0·1	+0·7	0	−1	+0·2	−0·60	−24
Upper Sub-Himalayas.	+·030	−0·5	+1·5	−·027	−4	+0·7	−0·25	−10
Indus Valley and North-West Rajputana.	+·031	+0·1	+1·2	−·002	0	−0·1	+0·10	+8
East Rajputana, Central India and Gujarat.	+·034	+0·3	+2·3	−·019	−1	−0·6	+0·33	+52
Deccan	+·032	+1·8	+1·9	−·046	−5	−0·2	−0·88	−46
West Coast	+·035	−0·2	+0·5	−·032	−3	−1·0	−3·48	−45
South India	+·027	+1·1	+1·2	−·008	−3	+0·2	−2·85	−66

The previous table gives mean data for the whole period and indicates that on the average of the period, pressure was in moderate excess, temperature generally in slight to moderate excess, humidity slightly to moderately below the normal and cloud and rainfall more or less below the normal over the greater part of North-Western India and the Peninsula.

The mean 8 A.M. pressure of the Indian land area was ·006″ in excess in March, ·021″ in excess in April and ·061″ in excess in May, and hence averaged ·029″ in excess for the whole hot weather period. It was hence in increasing excess throughout the period. The excess in May 1900 is the largest registered in the month of May during the past 25 years with one exception, May 1885, when pressure averaged ·068″ above the normal.

Frequent series of thunderstorms occurred in April in the Punjab, North-Eastern India and Southern India. Temperature was in large general excess in March, in slight excess in April and about normal in May on the mean of the whole area. The local variations of pressure from the general conditions in the months of March and April were generally opposite in character and apparently of little importance. The chief feature of the period was a general disturbance in the second week of the month of April which gave moderately heavy rain over the whole of Northern India and Baluchistan. The month of May was hotter than usual over the greater part of the Peninsula, and temperature was on the mean of the month in moderate excess in the Deccan and Mysore. The variations were small and variable in amount in Northern India and Berar. The hot weather conditions of May gave rise to the following abnormal features of the pressure distribution in that month:—

(1) General but slight excess, relatively to the mean condition, over nearly the whole of Northern and Central India and the North Deccan, the excess being most marked in Kathiawar, Lower Sind, Cutch and South-West Rajputana.

(2) General deficiency of pressure in the Peninsula, greatest in the area of greatest excess of temperature in the Madras Deccan and also in Lower Burma and the Andaman Sea where it was absolutely greatest.

(3) Slight excess of pressure at the level of the hill stations as compared with the neighbouring plains.

The following table gives comparative data of the month of May for 1900, and also for thirteen years which were in the great majority of cases characterized by increased temperature and decreased pressure over the Indian area:—

Month and year.	Variation from normal of Mean pressure of month. (Mean of 10 and 16 hours.	Mean temperature of month.	Mean aqueous vapour pressure of month.
	"	°	"
May 1879	−·045	+1·3	−·010
„ 1880	−·022	+0·2	−·001
„ 1881	+·002	+0·1	0
„ 1882	+·006	−0·2	−·004
„ 1885	+·062	−2·1	−·022
„ 1890	−·022	+0·6	−·011
„ 1892	−·027	+1·8	−·002
„ 1894	−·023	+1·5	−·011
„ 1895	−·007	+2·4	+·027
„ 1896	+·013	+2·3	−·005
„ 1897	−·004	+1·7	−·001
„ 1898	−·098	+0·6	−·015
„ 1899	−·019	+0·8	+·033
„ 1900	+·056	+0·8	−·014

The preceding data show that increased temperature in May generally accompanies decreased pressure. The relation is not simple or direct as there is no fixed relation between the two variations. In May 1900, although temperature was in slight excess, pressure was in very large excess, thus pointing to the presence of abnormal conditions—general and not local in character.

The following gives mean temperature variation data of Northern India (including the Punjab, Upper Sind,

the North-Western Provinces, Bihar and Rajputana) for the month of May of fourteen years, resembling May 1900 in their more important features:—

Month and Year.	Variation of mean temperature in Northern India.	Area of greatest variation.	Amount of greatest variation.
	°		°
May 1878	−4·2	North Bihar	+0·3
„ 1879	+4·0	North-Western Provinces.	+5·0
„ 1880	+2·0	South Punjab	+5·6
„ 1881	+0·8	Do.	+2·9
„ 1882	−0·5	North Punjab	+2·1
„ 1885	−4·6	Bihar	+1·0
„ 1890	+1·5	Punjab	+2·5
„ 1892	+3·0	West Punjab	+5·5
„ 1894	+3·0	Chota Nagpur	+5·0
„ 1895	+4·0	Punjab	+6·0
„ 1896	+3·1	Do	+4·8
„ 1897	+3·6	North-West Rajputana.	+5·5
„ 1898	+0·8	Assam (Surma)	+3·6
„ 1899	+3·3	Punjab (Central)	+6·3
„ 1900	+0·3	Do	+2·5

The data of the preceding table show that the temperature conditions in North-Western India of May 1881, 1882, 1890, 1898 and 1900 were practically normal. In each of the months of May, 1879, 1880, 1892, 1894, 1895, 1896, 1897 and 1899 temperature was considerably above the normal, due largely, if not solely, to deficient precipitation in the cold weather period over the plains and adjacent mountain areas of Northern India. In each of these months, except that of May 1896, the mean pressure of the Indian area was in defect, the deficiency averaging ·025″ for the first five years and almost identical in amount with this in four out of these five years. It will also be seen that May 1900 resembled May 1881 and 1882 most closely and to a slightly less extent May 1898.

Excessive temperature in the month of May generally gives rise to a larger diminution of pressure over the Indian area than that normal to the month, and hence to a deficiency of pressure as compared with the normal. The decrease of pressure is chiefly, if not solely, a temperature effect. This is confirmed by the fact that in each of these months (*viz.*, May 1879, 1880, 1890, 1892, 1894, 1895, 1896, 1897 and 1899) pressure at the level of the hill stations was in large relative excess or the vertical pressure anomalies were positive and considerable to large in amount. On the other hand, in years when the temperature variation is small, as in 1898 and 1900, the vertical anomalies are small, and also frequently somewhat irregular at the hill stations in Northern India. This is established by the following data for six pairs of stations:—

Pair of Stations.	Vertical pressure anomaly in May.											
	1878.	1879.	1880.	1890.	1892.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
	″	″	″	″	″	″	″	″	″	″	″	″
Quetta and Jacobabad	?	?	?	+·006	+·050	+·037	+·063	+·046	+·050	+·012	+·043	−·004
Leh and Lahore	−·052	?	+·069	+·063	+·125	+·082	+·101	+·085	?	+·003	+·075	−·007
Muree and Rawalpindi	+·011	+·040	+·038	+·041	+·035	+·028	+·057	?	+·017	+·001	+·033	+·006
Simla and Ludhiana	−·025	?	?	+·033	+·049	+·042	+·060	+·050	+·054	+·009	+·047	+·022
Chakrata and Roorkee	−·052	+·044	+·015	+·022	+·040	+·035	+·045	+·038	+·058	+·025	+·045	+·049
Darjeeling and Calcutta	−·039	+·032	+·007	+·002	+·003	+·023	+·033	+·011	+·028	+·015	+·025	+·018
Mean	−·031	+·039	+·032	+·028	+·050	+·041	+·060	+·046	+·041	+·011	+·045	·014

These conditions in May 1900 accompanied unusually late and somewhat heavy snowfall in April and May. Similar years of late and heavy snowfall are 1898, 1885 and 1878. The following gives the variations of the mean pressure of the Indian area from the normal during the first five months of these years and of 1900 for comparison:—

Year.	Variation of mean pressure of the Indian area from the normal in				
	January.	February.	March.	April.	May.
	″	″	″	″	″
1878	+·030	+·033	+·044	+·037	+·082
1885	+·039	−·013	+·022	+·018	+·068
1898	+·017	−·077	−·013	−·017	−·009
1900	−·004	−·008	+·006	+·022	+·061

The years 1878 and 1885 were characterized by excessive as well as prolonged snowfall and were associated with a considerable to large excess of pressure throughout.

In the years 1898 and 1900 the snowfall was moderate in the early part of the winter, and, although larger than usual in April and May, it was not excessive as in 1878 and 1885. This is shown very clearly by the temperature variations of the Punjab and North-Western Provinces for the months of April and May:—

Year.	Punjab.		North-Western Provinces and Oudh.	
	April.	May.	April.	May.
	°	°	°	°
1878	−0·9	−4·3	−0·6	−4·6
1885	−3·1	−8·1	−1·0	−3·6
1898	+4·8	+0·2	+2·5	+0·7
1900	−4·0	+0·6	−1·7	−0·2

The statements of the snowfall in April and May received from District Officers show that the snowfall in April was moderate to considerable in amount and was light in May. It was not excessive in character or like that which fell in these months in 1878 and 1885. This is confirmed by the comparison of the pressure and temperature variations of these months. It is hence very probable that the large excess of pressure in May 1900 was not solely due to the action of the late snowfall in May, and was probably in large part due to other and probably more general actions.

The more important features of the hot-weather period were as follows:—

(1) Increasing excess of pressure over the Indian area culminating in an unusually large excess in May.

(2) Higher temperature than usual, the excess being large and general in March, and decreasing in amount in April and May. The variations in May were small in amount over the whole of Northern and Central India. The only important feature in that month was a moderate excess in the interior of the Peninsula.

(3) The local variations of pressure both in the horizontal and vertical directions became less pronounced and marked with the advance of the season, and were slight in May.

(4) The distribution of the rainfall of the period was abnormal. March and May were much drier months than usual, whereas April was marked by a prolonged general disturbance affecting both the hills and the plains in India, so that the precipitation of that month was very generally in excess.

The following table gives vertical pressure anomalies for each month of the hot weather period of 1900 in Northern India determined from the variation data of six pairs of stations. It will be seen that the vertical pressure anomalies in Upper India were positive and large in amount in March and were generally negative but small in amount in April and irregular in May:—

Pair of Stations.	Vertical Pressure Anomaly.			
	March.	April.	May.	Mean of period.
	"	"	"	"
Quetta and Jacobabad . .	+·053	—·009	—·004	+·013
Leh and Lahore . . .	+·070	—·082	—·007	—·006
Murree and Peshawar . .	+·047	—·026	+·007	+·009
Simla and Ludhiana . . .	+·049	—·007	+·022	+·021
Darjeeling and Dhubri . .	+·040	+·038	+·031	+·036
Mount Abu and Deesa . .	—·006	—·011	—·028	—·015

The highest maximum temperatures were generally registered in the second week of June in Rajputana and in the second and last weeks of June or first week of July in the Punjab.

The highest temperatures of the year were generally registered later than usual due to the protracted dry hot weather in June and the first fortnight of July caused by the delay in the advance of the monsoon currents over North-Western India. The following gives the absolute maximum temperatures exceeding 115° registered in India during the hot weather of 1900:—

Province.	Station.	Highest maximum temperature recorded during the year.	Date on which recorded.
		"	
Punjab	Montgomery .	119·0	28th June.
	Lahore . .	118·6	21st June.
	Sialkot . .	118·5	2nd and 3rd July.
	Khushab . .	118·4	22nd June.
	D. I. Khan . .	118·2	3rd July.
	Peshawar . .	118·0	2nd July.
	Mooltan . .	117·4	13th June.
	Sirsa . . .	117·3	13th and 14th June
	Rawalpindi . .	117·0	2nd and 3rd July.
	Ludhiana . .	115·4	3rd July.
Sind	Jacobabad . .	124·5	14th June.
	Hyderabad . .	122·2	14th June.
Rajputana	Pachpadra . .	121·3	14th June.
	Jodhpur . .	118·8	14th June.
	Bikaner . .	118·3	14th June.
	Deesa . . .	118·1	13th June.
	Sambhar . .	115·0	14th June.

The meteorology of India during the hot weather of 1900 was determined in part by the distribution of the cold-weather snowfall in the Himalayan area and in part by meteorological actions and conditions which gave abnormal and late snowfall over the greater part of the Western Himalayas during the months of April and May. The abnormal snowfall was heaviest in Chitral and North Kashmir.

The cold-weather or winter snowfall was considerably below the normal in the Western Himalayas and Afghanistan Mountains. The extent of the snow clad surface was less than usual at the beginning of the winter and was probably considerably below the normal in the beginning of March. The disturbances in April and May gave a moderate and late general fall of snow in the Western Himalayas. The snow accumulation in May was somewhat above the normal at the end of the month. The general character of the weather in Northern India in March was such as is invariably associated with deficient winter precipitation in the Western Himalayas and the peculiar features of pressure and temperature in North-Western India in April and May were those associated with moderate late snow in the same region.

The larger features of the hot weather period were hence directly related to the snowfall of the previous cold

weather season and to that of April and the second week of May in the North-West Himalayas.

A noteworthy feature was the increased rainfall in the Assam Valley. This is the rule in about four out of five years of deficient cold-weather rains in North-Western India.

The following gives rainfall variation data for Assam :—

Area.	Rainfall.							
	March.		April.		May.		Total of period.	
	Variation from normal.	Percentage variation from normal.	Variation from normal.	Percentage variation from normal.	Variation from normal.	Percentage variation from normal.	Variation from normal.	Percentage variation from normal.
	Inches		Inches		Inches		Inches	
Assam Surma . .	+5·61	+75	+5·15	+41	−7·84	−42	+2·92	+8
Assam Brahmaputra .	+1·27	+37	+1·74	+22	−2·74	−22	+0·27	+1

The larger features of this period were hence directly related to the snowfall of the previous cold-weather season and to that of the second week of May in the North-West Himalayas. Although the pressure variations of the whole Indian area indicated that there were larger and more general actions in operation modifying the general pressure conditions in Southern Asia and probably the Indian Ocean.

III.—The south-west monsoon period, June to September 1900.—The meteorological conditions in the Indian land area antecedent to the establishment of the south-west monsoon were favourable to a normal monsoon and also to its rapid extension over nearly the whole of India.

The following gives the most prominent and important of these antecedent conditions :—

(1) The snowfall of the past winter was nowhere excessive, and over the greater part of the area was normal or below it. It however commenced later and continued later than usual. The snowfall accumulation in the last week of May 1900 was nowhere in large excess, and was probably about normal in the Kashmir, Bushahar, Kumaon and Garhwal Himalayas and in Baluchistan, and less than usual in the area including the Afghan and Chitral mountains and in Persia.

(2) The snowfall in parts of the Eastern Himalayas, on the other hand, was heavier than the normal.

(3) Pressure was from January to March practically normal over the Indian area, and was in moderate excess in April and in large excess in May. Pressure was during the greater part of the period in slight defect in Northern India and Central India and in slight excess in Burma. Presure was generally in local excess in the Peninsula, Kathiawar, Berar and the Central Provinces. The area of greatest excess varied slightly from month to month. These conditions were established at the end of the rains in November, and were fairly persistent up to May.

(4) Pressure was generally in relative excess at the hill stations or the vertical pressure anomalies were possitive in January, February, March and May and in relative defect in April. On the mean of the period January to May pressure was in moderate to considerable relative excess, except in the case of Leh.

(5) Temperature was in general excess in February and March. It was in local excess except in the Punjab, Sind, Rajputana and Gujarat in January and in the Punjab and North-Western Provinces in April, due to disturbed weather in these areas during these months. The excess was moderate to considerable in Berar, the Central Provinces, the Deccan and Mysore from January to April. Temperature was generally in excess in May, but the variations were small except in Berar, the Central Provinces, Deccan and Mysore (+3°).

(6) The air was much drier than usual during the greater part of the period over nearly the whole of the interior, and more especially in Berar, the Central Provinces, Deccan and Mysore, following the failure of the rains during last year's monsoon. Such continuous low humidities had not been recorded in these areas during the cold and hot weather seasons of the past 25 years. The decreased humidity was in part due to increased temperature and in part to the presence of a smaller amount of aqueous vapour than usual in the air.

(7) The distribution of cold and hot weather rainfall was unusual. The rainfall of both seasons was above the normal only in Chota Nagpur. The cold weather rainfall was practically nil in Sind, Rajputana, Gujarat and Berar and was in slight to moderate defect in Assam, the Punjab and Central India. It was in large excess in Bihar, Chota Nagpur and the North-Western Provinces. The rainfall in the hot weather season was very irregularly distributed over nearly the whole of Northern India and Burma. It was in considarable excess in Chota Nagpur and in considerable to large defect in Burma, Bihar, Berar, Sind and Central India.

(8) The conditions in the Indian Seas and the Indian Ocean were, so far as could be ascertained, somewhat unfavourable at the end of May, and indicated that the south-east trades were feebler than usual in the northern half of that area.

The following is a summary of the forecast (prepared in the first week of June) of the probable distribution of the monsoon rainfall based on these conditions :—

(1) Judging from the conditions in India and the known conditions in the Indian Seas and Ocean, it is very probable the monsoon currents of the present year will be, as rain-distributing currents, of about normal strength on the average of the whole season.

(2) It is very probable there will be a considerable delay in the establishment of the monsoon currents on the Bombay and Bengal Coasts. The delay will very probably be greater on the Bombay Coast than in Bengal, and it is probable that the rains will not set in fully on the Bombay Coast before the 4th week of June.

(3) The Bay current is more likely to be above its normal strength than the Bombay current.

(4) The local conditions were most favourable in Burma, East and South Bengal and the Central Provinces, and these areas would receive very probably at least normal rainfall and probably rainfall in excess.

(5) Conditions were favourable on the whole in Bihar, the West Coast districts, the West Deccan, Chota Nagpur, the

North-Western Provinces and Central India, and these areas would probably receive almost normal rain.

(6) Conditions were slightly less favourable in Berar, Khandesh, the Deccan, Carnatic and Mysore, and these areas would probably obtain about their normal amounts. Conditions were most favourable in Mysore.

(7) Conditions were somewhat unfavourable in Rajputana and the Punjab, more especially in the west and central districts, and the rainfall would be in defect, unless the monsoon currents were very vigorous.

The following table gives a summary of the rainfall data of the south-west monsoon period, 1900, for comparison with the statements of the forecast:—

Province.	Rainfall of season, June to October.			
	Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Burma	103·26	98·08	+5·18	+5
Assam	64·28	81·89	−17·61	−22
Bengal	60·96	60·20	+0·76	+1
Chota Nagpur	51·00	47·57	+3·43	+7
Bihar	41·47	43·82	−2·35	−5
North-Western Provinces and Oudh.	32·06	34·67	−2·61	−8
Punjab	19·49	15·16	+4·33	+29
Central Provinces	52·41	45·80	+6·61	+14
Central India	36·67	40·48	−3·81	−9
Rajputana	20·83	18·66	+2·17	+12
Berar	31·61	37·48	−5·87	−16
Bombay	40·04	41·39	−1·35	−3
Madras	33·92	32·92	+1·00	+3

The following table gives the mean variations of the more important meteorological elements in the eleven meteorological provinces of India for the south-west monsoon period, June to September, 1900:—

Meteorological Province.	South-west monsoon period, 1900.							
	Variation from normal of mean pressure.	Variation from normal of mean maximum temperature.	Variation from normal of mean minimum temperature.	Variation from normal of mean aqueous vapour pressure.	Variation from normal of mean relative humidity.	Variation from normal of mean cloud amount.	Total variation from normal of average actual rainfall.	Percentage variation from normal of rainfall.
	″	°	°	″			Inches	
Burma Coast and Bay Islands.	−·007	+0·7	+0·9	+·022	−1	+0·3	+6·68	+6
Burma Inland	+·010	0	+0·3				+4·22	+13
Assam	+·010	+0·5	+0·3				−14·24	−21
Bengal and Orissa.	+·003	+0·2	+0·4	+·017	−1	+0·5	+5·45	+10
Gangetic Plain and Chota Nagpur.	+·003	+0·2	+0·6	−·006	−2	+0·5	−1·88	−5
Upper Sub-Himalayas.	+·010	−0·2	+1·7	+·012	+1	+0·4	+0·43	+1
Indus Valley and North-West Rajputana.	+·004	+2·3	+2·7	+·039	−1	−0·8	+2·27	−32
East Rajputana, Central India and Gujarat.	0	+2·0	+2·2	+·014	−2	−0·7	+0·52	+2
Deccan	−·003	+2·0	+1·4	+·003	−3	+0·1	+1·55	+4
West Coast	+·008	+0·9	+1·2	+·008	−3	+0·1	+6·05	+7
South India	+·003	+1·0	+1·0	+·009	−2	+0·7	−0·75	−5

The following is a statement of the chief features of the meteorology of the whole period:—

(1) Pressure was in slight excess on the mean of the whole period over the greater part of India. The excess was largest in the Upper Sub-Himalayas, Assam and Upper Burma (+·010″). It was in slight defect in Lower Burma and the Andaman Sea. On the mean of the whole Indian area it was ·004″ in excess.

(2) Temperature was in general excess. The night temperature was on the whole in slightly greater excess than the day temperature. The excess was slightly marked in North-Eastern India and Burma, averaging only 0°·4 in the mean temperature. It was, on the other hand, moderate to considerable in amount over the greater part of North-Western India and the Peninsula. The excess in the mean temperature was more than 1° in the following divisions:—Indus Valley and North-West Rajputana, (+2°·5), East Rajputana, Central India and Gujarat (+2°·1) and the Deccan (+1°·7)

(3) The mean aqueous vapour pressure was slightly larger than usual but the relative humidity was below the normal to a slight extent due to the prevailing increased temperature.

(4) The amount of cloud was, on the mean of the period, slightly larger over the whole area, excepting the West Punjab, Gujarat, Sind, Rajputana and Central India.

(5) The rainfall, on the mean of the whole period, of the Indian area was practically normal. The local variations were generally small to moderate in amount. The most important features were:—

(*a*) Unusually favourable and abundant rain in Burma Inland.

(*b*) Considerable deficiency in Assam.

(*c*) Large relative deficiency in the Indus Valley and North-West Rajputana of comparatively little importance.

The chief feature of the south-west monsoon period of 1900 was the contrast between the meteorology of the first two months (June and July) and of the last two months (August and September).

During the first period the Bay monsoon currents were of moderate strength but were determined chiefly to North-East India and Burma and hence the rainfall in Northern India was in moderate excess in the eastern half and in large defect in the western half of that area. The following gives data in illustration :—

Area.	Rainfall of period, June and July.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Burma Coast	69·99	76.99	—7·00	—9
„ Inland	23.00	18·97	+4·03	+21
Bengal	32·23	30·20	+2·03	+7
Assam	43·01	43·31	—0·30	—1
Bihar	21·39	20·53	+0·86	+4
Chota Nagpur	17·91	22·58	—4·67	—21
North-Western Provinces and Oudh.	12·05	16·02	—3·97	—25
South-East Punjab	5·77	10·24	—4·47	—44

(2) The Arabian Sea current was much below its normal strength and was greatly delayed. The following statement gives an approximate estimate of the amount of the delay in different parts of the area which usually receives its monsoon rainfall from the Bombay current. :—

Area.	Actual date of establishment of current.	Normal date of establishment of current.	Delay.
Malabar	12th June	3rd June	9 days.
Konkan	25th „	5th „	20 „
Central Provinces	25th „	10th „	15 „
Central India	10th July	15th „	25 „
Rajputana	10th „	15th „	25 „
Gujarat	12th „	11th „	31 „
Kathiawar	11th „	13th „	28 „

The data show that the delay ranged between a fortnight and a month and that the Arabian Sea current was not fully established until nearly the middle of July.

(3) The rainfall over nearly the whole area, including North-Western and Central India and the greater part of the interior of the Peninsula, was hence very largely below the normal. The following gives data :—

Area.	Rainfall of period, June and July.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North-Western Provinces and Oudh.	12·05	16·02	—3·97	—25
Punjab	4.88	7·26	—2·38	—33
Sind	0·13	2·06	—1·93	—94
Rajputana	5·15	9·01	—3·86	—43
Central India	11 95	19·63	—7·68	—39
Central Provinces	17·74	23·94	—6·20	—26
Berar	13·81	18·76	—4·95	—26
Kathiawar and Cutch	5·68	15·65	—9·97	—64
Gujarat	9·36	24·72	—15·36	—62
Baluchistan	0·45	1·44	—0·99	—69

(4) The more important features of the meteorology of this period were the direct result of the abnormal distribution of the rainfall of the period. Temperature was in large excess, and humidity and cloud in large defect in the areas of deficient rainfall. On the other hand, temperature was in slight defect and humidity and cloud in slight excess in the areas of increased rainfall. The following gives variation data in illustration for the area of scanty rainfall in June and July.

Meteorological Province.	June and July.			
	Variation from normal of mean temperature.	Variation from normal of mean aqueous vapour pressure.	Variation from normal of mean relative humdty.	Variation from normal of mean cloud amount.
	°	″		
Gangetic Plain and Chota Nagpur	+1·1	—·012	—4	+0·2
Upper Sub-Himalayas	+2·2	·036	—6	—0·6
Indus Valley and North-West Rajputana	+3·2	+·022	—4	—1·4
East Rajputana, Central India and Gujarat	+4·2	—·060	—12	—2·7
Deccan	+3·2	—·012	—5	—0·4

The chief features of the distribution of the rainfall and meteorology of the second period were as follows :—

(1) The Bay current was throughout the period of normal strength but was determined more largely than usual to the Gangetic Plain and Upper India. The rainfall of

the period was hence in defect in Assam and North and East Bengal, as shown below :—

Division.	Rainfall of period, August and September.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam Surma	22·19	38·97	−16·78	−43
„ Brahmaputra	15·69	26·74	−11·05	−41
„ Hills	21·53	41·43	−19·90	−48
Eastern Bengal	21·75	27·45	− 5·70	−21
North „	19·25	32·86	−13·61	−41

(2) The rainfall of the period in the intermediate belt or trough of low pressure, including South-West Bengal, Orissa, Chota Nagpur, the Central Provinces and Rajputana was excessive, due to a succession of cyclonic-storms which traversed that area during the period.

Division.	Rainfall of period, August and September.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Deltaic Bengal	42·39	20·69	+21·70	+105
Central „	23·65	20·73	+2·92	+14
Orissa	36·90	22·67	+14·23	+63
Chota Nagpur	30·92	22·09	+ 8·83	+40
Central Provinces East	36·34	20·11	+16·23	+81
„ Central	33·37	20·81	+12·56	+60
„ West	30·54	18·67	+11·87	+64
Rajputana East and Central India	21·09	13·49	+7·60	+56
West Rajputana	10·20	5·40	+4·80	+89

(3) The rainfall due to the Bay current was larger than usual over the whole of Northern India with the exception of Bihar, where it was in slight defect. The following gives data for the areas not included in (1) and (2) :—

Division.	Rainfall of period, August and September.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Bihar North	18·71	22·39	−3·68	−16
„ South	16·48	18·82	−2·34	−12
North-Western Provinces East	17·60	17·68	−0·08	0
uth Oudh	19·55	16·99	+2·56	+15
North Oudh	16·58	17·66	−1·08	−6
North-Western Provinces, Central	18·93	16·05	+2·88	+18
„ West	17·07	12·32	+4·75	+39
„ East Submontane	19·35	18·69	+0·66	+4
„ West „	22·30	20·49	+1·81	+9
„ Hills	22·19	24·60	−2·41	−10
South-East Punjab	19·13	10·16	+8·97	+88
South „	16·39	6·51	+9·88	+152
Central „	11·26	7·08	+4·18	+59
Punjab Submontane	26·53	12·19	+14·34	+118
„ Hills	31·80	23·07	+8·73	+38
North Punjab	10·00	6·72	+3·28	+49
West „	3·43	2·91	+0·52	+18

(4) The rainfall was more or less in excess in the area exclusively dependent upon the Bombay current, as shown below :—

Division.	Rainfall during period, August and September.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Kathiawar and Cutch	23·13	10·98	+12·15	+111
Gujarat	25·15	17·49	+7·66	+44
Malabar	38·20	29·22	+8·98	+31
Konkan	53·24	38·92	+14·32	+37
Baluchistan	1·22	0·88	+0·34	+39
Khandesh	16·17	12·96	+3·21	+25
Berar	17·80	16·23	+1·57	+10
Mysore	12·44	9·86	+2·58	+26

(5) The variations of the other elements of meteorological observations including pressure, temperature, aqueous vapour pressure and cloud were directly dependent upon the strength and extension of the humid currents. The distribution of rainfall, pressure and temperature hence varied very slightly from the normal over the greater

part of the area and humidity and cloud were in excess. The following gives data :—

Meteorological Province.	Mean variation of Pressure.	Mean temperature.	Aqueous vapour pressure.	Relative humidity.	Cloud.
	"	°	"		
Burma Coast and Bay Islands	−·007	+0·7	+·021	−2	+0·2
Burma Inland	+·012	−0·2			
Assam	+·017	+1·1			
Bengal and Orissa	+·001	+0·4	+·012	0	+0·7
Gangetic Plain and Chota Nagpur.	−·001	−0·3	+·001	0	+0·9
Upper Sub-Himalayas	+·019	−0·6	+·060	+8	+1·4
Indus Valley and North-West Rajputana.	+·011	+1·9	+·056	+1	−0·2
East Rajputana, Central India and Gujarat.	−·014	0	+·089	+8	+1·4
Deccan	−·013	+0·2	+·017	0	+0·5
West Coast	+·012	+1·0	+·014	−3	+0·2
South India	+·007	+0·8	+·016	−1	+0·8

The information at present available for discussing the meteorology of the south-east trades region of the Indian Ocean is very limited.

The following gives variation data of the Royal Alfred Observatory, Mauritius, for nine months of the year, deduced from a comparison of the means of 1900 with normal means based on the observations of the previous 25 years :—

Mauritius.

Month.	Variation from normal of pressure.	Variation from normal of rainfall.	Percentage variation of rainfall.	Variation from normal of hourly wind velocity in miles.	Percentage variation of wind velocity.
	"	Inches.			
January 1900	+·041	−3·56	−52	−2·3	−21
February	+·019	−1·99	−29	−3·5	−31
March	−·014	+0·86	+10	−1·3	−13
April	−·018	−2·20	−41	−0·5	−5
May	−·017	−2·86	−65	−0·5	−5
June	−·022	−0·61	−31	−2·1	−19
July	+·024	+0·02	+1	−1·0	−8
August	+·009	−0·65	−27	−2·4	−19
September	−·002	−0·56	−54	−1·8	−15

The most remarkable feature of the meteorology of the period at Mauritius was the decreased air movement in every month of the period.

The rainfall was in considerable to large defect in seven months and was practically normal in the remaining two months. The deficiency in the nine months was 11·55 inches or 29 per cent. of the normal. Pressure was in steady moderate defect from March to June, in moderate excess in July, and normal in August and September.

In the following table a similar comparison is given for Zanzibar, the normal means being deduced from the observations of nine years :—

Zanzibar.

Month.	Variation from normal of pressure.	Variation from normal of rainfall.	Percentage variation of rainfall.	Variation from normal of hourly wind velocity in miles.	Percentage variation of wind velocity.
	"	Inches.			
January 1900	+·022	+1·50	+51	−1·0	−12
February „	+·025	+1·53	+51	−1·2	−18
March „	+·032	+2·63	+51	−0·8	−14
April „	+·040	+2·86	+24	−1·8	−25
May „	+·006	+1·11	+13	−0·8	−10
June „	+·020	−0·01	−1	−1·3	−14
July „	−·005	+2·98	+141	−2·5	−29
August „	+·010	−0·51	−28	−0·8	−11
September „	+·026	+1·97	+126	−0·2	−3

The preceding data indicate that the air movement at Zanzibar in 1900 was as steadily below the normal throughout the whole period as at Mauritius. Pressure was, on the other hand, above the normal in eight months out of the nine, and the rainfall in considerable to large excess in seven months. The most important features in the meteorology of the south-east trades region, as indicated by the data of these two stations, were the feebleness of the gradients during practically the whole period due to decreased pressure at Mauritius and increased pressure at Zanzibar and the decreased air movement. The winds at both stations averaged 15 per cent below their normal intensity.

The following table gives the mean pressure differences between Mauritius and Zanzibar and Mauritius and the Seychelles (determined from the data of the six years, 1894-99) and the actual differences in the corresponding months of the year 1900 :—

Month.	Pressure difference. Mauritius minus Zanzibar. Mean of 1894 to 1899.	Mean of 1900.	Variation.	Mauritius minus Seychelles. Mean of 1894 to 1899.	Mean of 1900.	Variation.
	"	"	"	"	"	"
January	+·020	+·078	+·058	+·015	+·068	+·053
February	−·012	+·030	+·042	−·012	+·033	+·045
March	+·049	+·024	−·025	+·056	+·027	−·029

Month.	Pressure difference. Mauritius minus Zanzibar. Mean of 1894 to 1899.	Mauritius minus Zanzibar. Mean of 1900.	Mauritius minus Zanzibar. Variation.	Mauritius minus Seychelles. Mean of 1894 to 1899.	Mauritius minus Seychelles. Mean of 1900.	Mauritius minus Seychelles. Variation.
	"	"	"	"	"	"
April	+·058	+·022	−·036	+·108	+·097	−·011
May	+·064	+·038	−·026	+·167	+·137	−·030
June	+·052	+·036	−·016	+·216	+·172	−·044
July	+·086	+·116	+·030	+·232	+·252	+·020
August	+·111	+·105	−·006	+·246	+·226	−·020
September	+·110	+·101	−·009	+·213	+·200	−·013
Mean of whole period	+·060	+·061	+·001	+·138	+·135	−·003
Mean of June to September.	+·090	+·090	0	+·227	+·213	−·014

The preceding data establish that the pressure differences or total gradients between Mauritius and the equatorial belt as represented by Zanzibar and the Seychelles were less than the mean of the five years 1894-99 from March to June, and also in August and September or throughout nearly the whole of the hot weather and monsoon periods. The decrease in the gradients was considerable, averaging, as measured by the differences of pressure, between Mauritius and the Seychelles 50 per cent. in March, and 20 per cent in May and June, in which months the decrease was greatest in actual amount.

The following table gives a comparison, week by week, from the 1st of May to the end of September, of the air pressure and velocity of the air movement at Port Victoria, Seychelles, in the six years 1895, 1896, 1897, 1898, 1899 and 1900:—

Week.	10 A.M. pressure reduced to sea-level and constant gravity at Lat. 45°.	1900. Hourly wind velocity in miles.	1899. Hourly wind velocity in miles.	1898. Hourly wind velocity in miles.	1897. Hourly wind velocity in miles.	1896. Hourly wind velocity in miles.	1895. Hourly wind velocity in miles.
1st to 7th May	29·920	4·9	5·7	3·1	7·1	5·3	5·9
8th to 14th "	·963	6·3	4·4	2·4	6·4	8·3	3·6
15th to 21st "	·910	3·4	7·5	7·9	6·2	10·1	3·7
22nd to 28th "	·907	5·4	19·5	7·5	6·9	9·4	6·4
29th May to 4th June	·933	8·8	10·9	7·5	4·5	9·4	9·9
5th to 11th "	·927	9·6	8·3	10·8	7·3	9·5	12·9
12th to 18th "	·978	9·8	12·2	13·7	7·8	11·8	11·6
19th to 25th June	29·950	8·9	13·5	10·3	9·0	9·9	10·3
26th June to 2nd July	30·004	11·5	11·7	13·0	4·0	10·7	13·0
3rd to 9th "	29·980	9·8	15·9	13·9	11·3	12·6	9·7
10th to 16th "	·973	13·9	14·8	12·2	10·0	11·9	11.3
17th to 23rd "	·949	11·3	13·3	8·9	9·2	12·6	14·0
24th to 30th "	·950	12·4	14·8	11·5	16·8	11·3	11·2
31st July to 6th Aug.	·978	12·9	13·0	12·4	11·5	15·8	13·2
7th to 13th "	·989	13·8	14·2	12·3	9·9	14·0	11·7
14th to 20th "	30·009	15·5	15·3	14·3	13·1	13·7	16·0
21st to 27th "	29·962	14·7	15·8	12·3	12·8	15·5	14·0
28th Aug. to 3rd Sep	·968	12·2	12·2	9·9	8·9	16·1	12·0
4th to 10th "	30·007	10·7	15·0	13·4	16·7	10·8	13·3
11th to 17th "	29·981	11·5	12·8	12·5	10·9	13·3	12·9
18th to 24th "	·989	14·3	7·5	10·3	13·0	12·8	12·1

The considerable delay in the full establishment of the south-west monsoon in India was hence associated with weaker south-east trades than usual. This was strongly exhibited at the Seychelles during the period of the delay. The data of the preceding table appear to indicate that the commencement of the south-west monsoon in the Indian seas is practically coincident with the rise of the air movement at the Seychelles to 12 or 13 miles per hour. The data indicate that the winds were much lighter than usual at that station until the end of the first week of July when a rapid increase occurred and winds were during the remainder of that month and in August above their normal strength. The delay in the strengthening of the winds at the Seychelles antecedent to the full establishment of the monsoon indicated by the data of the preceding table was not due to conditions in either the Indian land or sea area and was almost entirely due to conditions outside of India and probably present in the Indian Ocean.

The data of the preceding four tables indicate that the meteorological conditions in the south-east trades region were abnormal, more especially in the period antecedent to the south-west monsoon and in the month of June. The variations of the actual pressure and of the pressure gradients were not large. The known facts of the distribution of rainfall in South Africa and Mauritius and at the Seychelles and Zanzibar suggest that the south-east trades were considerably below their normal strength during the premonsoon period and the greater part of the monsoon period and also that they were deflected more largely than usual to South and Central Africa during the first two months of the monsoon period.

The following gives the mean direction of the actual and normal air movement at Zanzibar and the Seychelles,

and shows that the direction of the air movement in the south-east trades area was very considerably modified :—

Month.	Zanzibar.		Seychelles.	
	Actual.	Variation. E.	Actual.	Variation. E.
January	N47°E	+12°	N46°W	−3°
February	N41°E	+7°	N22°W	+5°
March	S18°E	−16°	N20°W	+11°
April	S8°W	−13°	N33°W	Large.
May	S3°E	−2°	S44°E	0
June	S10°E	+6°	S35°E	+14°
July	S10°E	+5°	S42°E	+13°
August	S6°E	−3°	S39°E	+3°
September	S2°W	−10°	S51°E	+10°

The retreating south-west monsoon period, October to December 1900.—The following gives mean variation data of this period for eleven meteorological provinces :—

Meteorological Province.	Retreating south-west monsoon period, October to December 1900.							
	Variation from normal of mean monthly pressure.	Variation from normal of mean maximum temperature.	Variation from normal of mean minimum temperature.	Variation from normal of mean aqueous vapour pressure.	Variation from normal of mean relative humidity.	Variation from normal of mean cloud amount.	Total variation from normal of average actual rainfall.	Percentage variation from normal of rainfall.
	″	°	°	″			Inches.	
Burma Coast and Bay Islands.	+·009	+0·6	+0·6	−·002	−3	−0·2	−5·18	−35
Burma Inland	+·010	+0·9	+1·0				−0·36	−6
Assam	+·014	+1·8	0				−2·18	−3
Bengal and Orissa	+·018	+1·5	+0·3	−·002	−3	−0·4	−3·65	−57
Gangetic Plain and Chota Nagpur.	+·016	+0.4	+1·2	+·018	0	+0·2	−0·10	−3
Upper Sub-Himalayas.	+·017	−1·1	+2·7	+·028	+5	+0·8	+0·67	+63
Indus Valley and North-West Rajputana.	+·014	−0·3	+2·4	+·021	+1	+1·0	+0·35	+92
East Rajputana, Central India and Gujarat.	+·008	+1·1	+2·2	+·011	+1	+0·1	−0·47	−44
Deccan	+·022	+2·8	+2·1	−·045	−7	−0·6	−3·18	−72
West Coast	+·009	+1·9	+1·6	−·010	−5	−0·9	−6·89	−59
South India	+·021	+1·5	+1·0	+·010	−2	+0·2	−4·08	−24

The following summarizes the chief features of the period :—

(1) The mean pressure was above the normal over the whole Indian area. It was most largely in excess in the Deccan (+·022″) and South India (+·021″).

(2) The maximum temperature of the period was in excess in all divisions, except the Upper Sub-Himalayas and the Indus Valley and North-West Rajputana. The excess was greatest in the Deccan (+2°·8) and the West Coast (+1°·9).

The minimum temperature was normal in Assam and more or less in excess in all other divisions. The excess was most marked in the Upper Sub-Himalayas (+2°·7) and Indus Valley and North-West Rajputana (+2°4).

The mean temperature of the period was above the normal over the whole area. The mean variation for the period was 2°·5 above the normal in the Deccan, where it was greatest, and 1°·8 in the West Coast and 1°·7 in East Rajputana, Central India and Gujarat.

(3) The mean absolute humidity was practically normal over the whole Indian area except the Deccan, where the aqueous vapour present in the air was in slight defect in amount. The mean relative humidity was 7 below the normal in that area, 5 below in the West Coast and 5 above in the Upper Sub-Himalayas. The variations in the remaining districts were small.

(4) The rainfall of the period was in moderate to considerable excess in Baluchistan and North-Western India due to more frequent cold weather depressions than usual, more especially in December. The following gives data in illustration :—

Area.	Rainfall during the retreating south-west monsoon period, October to December.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Baluchistan	4·41	1·81	+2·60	+144
Punjab	1·36	0·88	+0·48	+55
Rajputana	0·60	0·58	+0·02	+3
North-Western Provinces and Oudh.	2·57	1·93	+0·64	+33

(5) The precipitation was much heavier than usual in the Western-Himalayas in December.

(6) The rainfall was more or less scanty in the areas which usually receive moderate to heavy rainfall from the retreating south-west monsoon, including Lower Burma, Bengal, Orissa and the Peninsula, except South Madras which received slightly more than usual.

Division.	Rainfall during the retreating south-west monsoon period, October to December.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Lower Burma	8·18	12·59	−4·41	−35
Bengal	2·10	5·48	−3·38	−62

Division.	Rainfall during the retreating south-west monsoon period, October to December.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Orissa	7·53	8·26	—0·73	—9
Berar	0·04	3·67	—3·63	—99
Central Provinces	1·61	2·79	—1·18	—42
Bombay Deccan	1·08	6·24	—5·16	—83
Madras ,,	3·46	7·43	—3·97	—53
Hyderabad	0·88	4·62	—3·74	—81
Bombay Coast	4·27	10·21	—5·94	—58
Madras ,,	11·68	17·20	—5·52	—32
Mysore	6·02	8·68	—2·66	—31

(7) The rainfall of the period was very irregularly distributed in South Madras, as is shown by the following data :—

District.	Rainfall during the retreating south-west monsoon period, October to December.			
	Average actual, 1900.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Chingleput	16·87	26·64	—9·77	—37
Tanjore	26·72	27·31	—0·59	—2
Trichinopoly	13·09	16·34	—3·25	—20
Madura	16·05	16·68	—0·63	—4
Tinnevelly	22·32	16·53	+5·79	+35

The more noteworthy features of the period were :—

(1) The early withdrawal of the south-west monsoon currents from the Bay.

(2) The earlier commencement of unsettled weather in North-Western India than usual.

(3) The large and increasing excess of temperature in the Deccan area and Central India.

The peculiar character of the monsoon currents of 1900 has been already pointed out.

The monsoon current in the Arabian Sea was very feeble in June and July and strong in August and September. It withdrew from practically the whole sea area during the month of October.

The change was very rapidly effected in a period of about a week, extending from the 28th or 29th of September to the 6th or 7th of October. On the 28th September south-westerly to westerly winds obtained over the greater part of the Arabian Sea. Light and variable winds, chiefly from directions ranging between north-west off the west coast of India, and north-east and east in the centre and west of the sea, prevailed during the next fortnight to the north of Lat. 4° N. During the first week of this period a considerable rise of pressure occurred in the Persian area. Pressure decreased to some extent during the second week of the month in that area. On the 18th and 19th a further rapid increase occurred in the Persian area, establishing marked high pressure conditions which held fairly steadily during the remainder of the month. Steady north-east winds set in about the same time over the Arabian Sea and prevailed over the whole sea area to the north of the equator from the 20th of October to the end of the period. The suddenness and rapidity of the change from south-west monsoon conditions to north-east monsoon conditions in the Arabian Sea in 1900 contrasted with the comparative slowness of the change in the Bay of Bengal is very striking.

The Bay current was vigorous throughout the whole period from June to September.

The chief abnormal features of the distribution of pressure of the month of September were a moderate to considerable excess of pressure in the submontane districts of Northern India and in Assam, East Bengal and Upper Burma (greatest in the latter area) and a moderate to considerable deficiency in the north-east and centre of the Peninsula.

During the first fortnight of October the Bay current continued to be determined northwards to Bengal and Burma. The one storm of this period followed a northerly course, which was, in fact, marked out for it by the lie of the axis of the low pressure area in the Bay. Northerly winds set in over the head of the Bay on the 13th and 14th after the dispersion of the storm of the second week of the month and extended rapidly over the north and east of the Bay. Westerly winds continued in the south and south-west of the Bay during the remainder of the month and a low pressure area or belt with easterly winds to the north and westerly winds to the south lay over the southern half of the Bay from the 17th to the 24th or 25th. A cyclonic storm formed in that area on the 22nd and advanced north-westwards to the Coromandel Coast on the 24th, and was broken up in Southern India during the next 24 hours. Pressure increased in the north of the Bay, and moderate and increasing gradients for north to north-east winds were established before the end of the month.

North-east winds held with unusual steadiness over the north, centre and west of the Bay from the first week of November to the end of December. Occasionally, the gradients for these winds were unusually steep, and strong north-east to east winds obtained on the Coromandel Coast and gave showery weather for brief periods, chiefly in the coast districts and the most southern districts, including Tinnevelly and Madura. Feeble north-east monsoon conditions were hence established in the Bay to the north of Lat. 8° N. in the first week of November, about a month or six weeks earlier than usual.

The larger changes of the abnormal pressure features in India during this period, from October to December, were very interesting. The area of excess pressure, which in September lay over Northern India, extended across Central India into the Deccan in October, when the excess was greatest in Berar and the adjacent districts of the Central Provinces and Central India. Pressure continued

locally in defect in the southern half of the Peninsula and in Burma and the Bay, the deficiency being greatest in the Andaman Sea.

The area of excess pressure extended southwards in November over Southern India, Burma and the Bay, whilst a wave of low pressure appeared in North-Western India and North Bombay. The excess was greatest in the Coromandel districts, from Vizagapatam to Negapatam, and the deficiency in the Indus Valley and in North Bombay.

In December the excess in the Peninsula continued, but was less prominent than in December. The deficiency in North-Western India was replaced by a very slight excess, whilst the area of low pressure in North Bombay had intensified and extended. It was defined by the stations of Veraval, Deesa, Ajmer, Neemuch and Malegaon. This area of low and deficient pressure was important, as there was a very marked tendency during the next three or four months for feeble cold weather disturbances and cyclonic storms to originate in it

The following table gives the pressure anomalies of the eleven meteorological provinces of India for the months of September, October, November and December and illustrates the previous remarks :—

Meteorological Province.	Pressure anomaly.					
	September 1900.	October 1900.	November 1900.	December 1900.	Mean of October to December 1900.	Mean of November and December 1900.
	"	"	"	"	"	"
Burma Coast and Bay Islands.	—·002	—·033	+·004	+·007	—·007	+·006
Burma Inland . .	+·029	—·013	—·004	—·001	—·006	—·003
Assam	+·032	—·005	—·003	+·001	—·002	—·001
Bengal and Orissa. .	+·011	—·002	+·003	+·006	+·002	+·005
Gangetic Plain and Chota Nagpur.	+·003	+·007	—·010	+·004	0	—·003
Upper Sub-Himalayas .	+·022	+·007	—·015	+·011	+·001	—·002
Indus Valley and North-West Rajputana.	+·010	+·015	—·024	+·004	—·062	—·010
East Rajputana, Central India and Gujarat .	—·009	+·012	—·009	—·018	—·005	—·014
Deccan . . .	—·020	+·014	+·011	—·008	+·006	+·002
West Coast . . .	—·002	—·011	0	—·009	—·007	—·005
South India . . .	—·009	—·011	+·017	+·008	+·005	+·013

The data of the preceding table show a marked tendency to local excess of pressure in the Peninsula during the period, October to December. It was most marked in the Deccan in October, when the monsoon currents were withdrawing from North-Eastern India, and was greatest in Southern India during the remainder of the period.

The pressure conditions of the period were favourable to the determination of the retreating south-west monsoon to the South Madras coast districts and Southern India in October only, whilst they were unfavourable to their diversion to the Deccan and North Madras throughout the whole period. They were favourable in Burma, and more especially in Upper Burma. The rains continued until the end of October in Burma.

The following table shows the character of the rainfall distribution during this period in the Peninsula :—

Division.	Rainfall of period, October to December.			
	Average actual, 1900.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Malabar Coast	7·89	13·55	—5·66	—42
Mysore	6·02	8·68	—2·66	—31
Madras (South Central) . .	7·76	11·19	—3·43	—31
„ (East Coast North) .	5·84	10·33	—4·49	—43
„ (Central) . . .	3·46	7·43	—3·97	—53
„ (East Coast Central) .	11·91	18·87	—6·96	—37
„ („ South) .	17·29	22·40	—5·11	—23
„ (South) . . .	18·88	16·61	+2·27	+14

The third important feature of the period was the excessive temperature in the area including Berar, the Central Provinces, Khandesh and the neighbouring districts of the Deccan and Central India. Temperature was more or less in defect in that area in October, a legacy of the heavy rainfall of the two preceding months. Partly, in consequence of the absence of rain in October and November temperature increased rapidly, relatively to the normal, and was in remarkably large excess in December. The following tables giving temperature, aqueous vapour pressure and cloud data for representative stations in that area show the chief features and combination of conditions :—

Station.	Variation from normal of maximum temperature.		
	October.	November.	December.
	°	°	°
Malegaon	+3·2	+5·2	+7·8
Khandwa	+2·0	+6·4	+6·4
Akola	+1·2	+3·4	+6·6
Amraoti	+0·7	+3·2	+5·2
Chanda	+0·3	+2·9	+5·2
Nagpur	+0·5	+3·2	+5·6
Seoni	—0·8	+2·7	+4·7
Raipur	—2·3	+1·8	+5·5
Jubbulpore	—1·5	+2·0	+3·6
Sutna	—2·7	+1·8	+1·4
Nowgong	—3·4	?	—1·1
Bijapur	+4·6	+4·4	+4·8

Station.	Variation from normal of minimum temperature.		
	October.	November.	December.
	°	°	°
Malegaon	−3·2	+2·4	+9·2
Khandwa	−5·0	+1·5	+10·8
Akola	−4·7	−0·2	+9·4
Amraoti	−1·4	?	+6·6?
Chanda	−1·7	−0·1	+10·3
Nagpur	−2·1	+0·1	+7·8
Seoni	−2·9	+0·2	+7·4
Raipur	−1·7	+0·4	+7·0
Jubbulpore	−2·6	+1·0	+9·7
Sutna	−0·6	+3·5	+8·2
Nowgong	−2·6	+3·2	+7·8
Bijapur	+0·4	+2·1	+7·1

Station.	Variation from normal of mean temperature.		
	October.	November.	December.
	°	°	°
Malegaon	0	+3·8	+8·5
Khandwa	−1·5	+4·0	+8·6
Akola	−1·8	+1·6	+8·0
Amraoti	−0·4	?	+5·9?
Chanda	−0·7	+1·4	+7·8
Nagpur	−0·8	+1·7	+6·7
Seoni	−1·9	+1·5	+6·1
Raipur	−2·0	+1·1	+6·3
Jubbulpore	−2·1	+1·5	+6·7
Sutna	−1·7	+2·7	+4·8
Nowgong	−3·0	?	+3·4
Bijapur	+2·5	+3·3	+6·0

Station.	Variation from normal of aqueous vapour pressure.		
	October.	November.	December.
	"	"	"
Khandwa	−·084	+·009	+·083
Akola	−·148	−·056	+·067
Nagpur	−·104	−·031	+·120
Buldana	−·156	−·095	+·015
Sholapur	−·170	−·107	−·034
Poona	−·096	−·072	+·027

Station.	Variation from normal of cloud amount.		
	October.	November.	December.
Khandwa	−1·2	−0·2	+0·8
Akola	−1·6	−0·5	+1·4
Nagpur	−0·6	0·8	+1·6
Buldana	−1·1	−1·2	−0·3
Sholapur	−2·2	−0·9	−1·2
Poona	−1·8	−0·4	−0·5

The data of the preceding table indicate that the area, including Khandesh, Berar, the Central Provinces and adjacent districts of Central India, had unusually high temperature, both by day and night, in December, and that the air was also damper and contained more aqueous vapour than usual, and that skies were more clouded than usual.

The most remarkable feature of this period in the large area of excessive temperature was the extreme unsteadiness of the winds. This is shown by the following data for all second class stations in the area :—

Station.	Wind steadiness.					
	October.		November.		December.	
	Actual.	Variation from normal.	Actual.	Variation from normal.	Actual.	Variation from normal.
Nagpur	35	14	25	−35	18	36
Khandwa	39	+4	59	+7	32	−10
Akola	52	+20	54	+5	36	21
Buldana	67	+18	58	+6	21	−22
Pachmarhi	52	+20	45	+4	32	+11
Chikalda	33	7	18	−1	27	+19

The data show that this feature of abnormal unsteadiness of the winds was most strongly exhibited in the month of December when the day temperature was, on the whole, most largely in excess.

Winds differed very irregularly in strength from the mean of the period, but were on the average of all stations, slightly feebler than usual, as is shown below :—

Station.	Wind velocity in miles per diem.					
	November.			December.		
	Actual.	Normal.	Percentage variation from normal.	Actual.	Normal.	Percentage variation from normal.
Nagpur	88	95	−7	70	83	−16
Khandwa	58	64	−9	88	62	+42
Akola	57	85	−33	66	80	−18
Buldana	122	122	0	162	132	+23
Chikalda	125	114	+10	135	117	+15
Sutna	62	77	−19	60	86	−30
Raipur	53	79	−33	65	62	+5
Jubbulpore	43	43	0	60	43	+40

The previous data have shown clearly the chief features of the meteorological conditions of the period accompanying the large excess of temperature, which was a prominent feature of the meteorology of the period.

The year.—The following gives a tabular summary of the meteorological data of the year 1900 for the eleven meteorological provinces of India:—

Provincial meteorological data for the year 1900.

Province.	Bar. variation.	Mean maximum temperature of year.	Variation of year.	Mean minimum temperature of year.	Variation of year.	Mean daily temperature of year.	Variation of year.	Mean daily range.	Absolute range during year.	Mean monthly absolute range.	Rainfall of year.	Normal rainfall of year.	Variation from normal of year.	Percentage variation of rainfall.
	″	°	°	°	°	°	°	°	°	°	Inches.	Inches.	Inches.	
Burma Coast and Bay Islands.	+·008	88·5	+0	74·5	+0·8	81·5	+0·9	14·0	36·4	22·1	132·44	139·74	−2·10	−2
Burma Inland . .	+·009	90·8	+0·6	69·9	+1·1	80·4	+0·9	21·0	56·7	31·8	49·08	46·55	+2·53	+5
Assam . . .	+·008	84·3	+0·8	67·5	+0·7	75·9	+0·7	16·8	51·1	28·2	93·65	104·92	−11·26	−11
Bengal and Orissa .	+·009	87·5	+1·2	69·9	+1·1	78·7	+1·1	17·6	53·4	29·4	72·87	72·75	+0·12	0
Gangetic Plain and Chota Nagpur.	+·009	88·4	+0·5	68·1	+1·2	78·3	+0·9	20·3	65·6	34·1	43·98	44·79	−1·01	−2
Upper Sub-Himalayas .	+·014	86·8	−0·2	65·0	+1·9	76·0	+0·9	22·1	77·3	39·3	38·48	37·82	+0·49	+1
Indus Valley and North-Western Rajputana.	+·014	91·7	+0·8	66·4	+1·7	79·0	+1·2	25·0	84·2	42·6	7·39	9·66	−2·26	−23
East Rajputana, Central India and Gujarat.	+·008	91·2	+1·1	68·7	+2·0	80·0	+1·6	22·4	70·8	36·5	30·18	30·13	+0·07	0
Deccan . . .	+·011	92·4	+2·4	69·0	+2·1	80·7	+2·3	23·5	61·2	34·9	38·75	41·30	−2·48	−6
West Coast . . .	+·013	86·7	+0·2	75·0	+0·9	80·9	+0·6	11·6	30·7	19·0	98·76	103·13	−4·37	−4
South India . . .	+·012	91·6	+1·5	73·0	+1·2	82·3	+1·3	18·5	46·1	28·5	31·86	36·63	−4·67	−13

The mean 8 A. M. pressure of the year was in very slight excess over the whole of India, the excess being greatest in the Indus Valley and North-West Rajputana and Upper Sub-Himalayas (+·014″).

The mean maximum temperature was in excess in all provinces except the Upper Sub-Himalayas, where it was 0°·2 below the normal. The excess averaged 0°·9 for the whole of India and was greatest in the Deccan (2°·4). It exceeded 1° in South India (+1°·5), Bengal and Orissa (+1°·2) and East Rajputana, Central India and Gujarat (+1°·1).

The mean minimum or night temperature was also in general excess. The excess was generally greater than that in the day temperature and exceeded 1° in eight out of the eleven meteorological provinces. It averaged (2°·1) in the Deccan and (2°·0) in East Rajputana, Central India and Gujarat.

The mean temperature of the whole land area was, according to the data of Table I, 1°·1 above the normal, and according to those of Table II, 1°·2 in excess. The variations for the year were less than 1° in six out of the eleven meteorological provinces. The mean temperature of the year was 2°·3 in excess in the Deccan, 1°·6 in East Rajputana, Central India and Gujarat, 1°·3 in South India, 1°·2 in the Indus Valley and North-West Rajputana and 1°·1 in Bengal and Orissa.

The mean rainfall for the whole of India was in considerable excess in the first period of the year, inslight defect in the second, and normal in the third period and in large defect in the fourth. The mean variation for the whole year (taking into consideration the areas represented by the rainfall stations) was —0·57 inch. The deficiency was greatest in percentage amount in the Indus Valley and North-West Rajputana (23 per cent.), South India (13 per cent.) and Assam (11 per cent.). The variations in the remaining provinces were small in percentage amount. Although the rainfall of the year was approximately normal on the mean of the whole area it was much more irregularly distributed, both in locality and time, than usual.

Concluding Remarks.—All the more important features of the meteorology of the year have been stated in the preceding discussion. The following gives a very brief summary of the more interesting and important abnormal features with their probable relations to each other.

The chief feature of the cold weather was the absence of well-marked cyclonic storms and the consequent scanty precipitation of the period in North-Western and Central India. This was, as in four out of the five preceding cold weather periods, a phase of a more general partial failure of the winter rains and snowfall over the large area including Baluchistan, Afghanistan, Persia, Arabia and Asiatic Turkey, the causes of which have not yet been worked out, as their investigation would invoive the systematic study of the meteorology of South-West Asia and South-East Europe, and perhaps Central Asia in its relation to that of Southern Asia during the past ten years at least.

As is almost invariably the rule, the scanty precipitation of the cold weather accompanied higher temperature and greater dryness of the air in that period, and was followed

by more pronounced and exaggerated hot weather conditions than usual. Similar conditions obtained throughout the whole hot weather periods of the years—1879, 1880, 1882, 1890, 1892, 1895, 1896, 1897, 1898 and 1899, in all of which the winter rains failed more or less in Western India.

Temperature was in large excess in March, the air unusually dry, and the skies more free from cloud than usual. April and May 1900 were characterized by frequent disturbances in the mountain areas to the north-west of the Punjab and the Kashmir Valley. These disturbances gave late and frequent snow on the higher ranges in these mountain areas which brought the snow line for brief periods considerably below the normal height of the period. This descent of the snow line accompanied a considerable temporary reduction of temperature in Upper India after each disturbance.

This reduction of temperature in Upper India cannot be explained by the slight showers, more or less local in character, which occurred in that area during the month.

The rainfall due to the frequent disturbances was more largely in excess, relatively as well as actually, in Assam, parts of Bengal, Chota Nagpur, the Madras coast districts, Malabar and the Deccan, and yet in all these areas temperature was more or less above the normal in April. In the area the temperature of which is almost invariably affected by heavy snowfall, temperature was slightly to largely reduced below the normal. This area usually includes the Punjab, Upper Sind, the North-Western Provinces and North Rajputana.

The reduction was greatest in the North Punjab, and the Kashmir Valley, the districts nearest to the area of heavy snowfall in the Western Himalayas. The following gives variation data for a few stations :—

Station.	Variation from normal of		
	Maximum temperature, April 1900.	Minimum temperature, April 1900.	Mean temperature, April 1900.
	°	°	°
Murree	−8·6	−5·9	−7·3
Leh	−7·2	−2·7	−5·0
Simla	−5·4	−4·6	−5·0
Ranikhet	−4·9	−3·4	−4·2
Peshawar	−6·0	−3·1	−4·6
Khushab	−6·3	−4·1	−5·2
Lahore	−4·7	−0·2	−2·5
Sirsa	−6·6	−0·7	−3·7
Roorkee	−4·7	−2·0	−3·4
Agra	−5·2	+0·4	−2·4
Allahabad	−3·4	+0·6	−0·9
Darjeeling	+2·7	+0·8	+1·8

Data for Darjeeling are given above in order to show that the reduction of temperature was confined to the western half of the Himalayas, and hence that the abnormal snowfall also occurred only in that area.

The only possible explanation of the decreased temperature in April and May in North-Western India is that it was an effect of heavy snowfall in the adjacent mountain ranges to the north and north-west of the Punjab. The snowfall brought down the snow line to low elevation. This was followed by a large reduction of temperature in the mountain area and by a descent of very cool dry air to the adjacent plains which intermingled with the air over the plains and reduced its temperature and humidity considerably to largely. It may be noted that similar late falls of snow have occurred in the months of April and May in the years 1885, 1891, 1897 and also in the present year (1900).

These falls are apparently not due to disturbances or storms of the ordinary cold weather type, nor are they as a rule due to the march of hot weather depressions from Sind to the Punjab hills.

The only explanation of the origin of the disturbances which give this late snow in the Western Himalayas is based on information respecting the seasonal distribution of snowfall in the area, including the Thibetan and Pamir plateaux which I have received from a resident of Kashmir.

The snowfall in these areas is small in amount in the south-west monsoon proper. Light snow is occasionally received in October and November on the outer snowy ranges. This snow usually melts shortly after it falls and it is not until December that more or less frequent snow commences and accumulates on the outer snowy ranges and the higher valleys over about 10,000 feet in height. These areas usually receive heavy snow in January and February and, under normal conditions, moderate to light snow in March. The snow usually begins to melt sufficiently to give increasing volumes to the large rivers rising in that area and fed by the snow water in April. Weather is generally fine with clear skies over the outer snowy ranges of the Himalayas in April and May.

On the other hand, in the interior snowy ranges, including the Karakoram range and on the high plateaux of Thibet and the Pamirs, the chief snowfalls occur later than in the outer snowy ranges, and generally in March and April and sometimes in May. These falls appear to be due to disturbances which, as a rule, apparently do not affect the plains and hills of Upper India and would hence appear to be due to actions and conditions in Central Asia. This, it may be noted, is confirmed by the fact that there are occasional large pressure changes shown by the high level Kashmir stations which do not extend to Murree or the Punjab plains stations and have no apparent connection with the pressure changes in Northern India.

If this be the case, it is probable that when the disturbances which give snow to the inner snowy ranges and plateaux of South-Central Asia, are more extensive than usual, they may also affect the area of the outer snowy ranges of the Western Himalayas and hence give late and heavy snow in that area. In the absence of accurate data for nearly the whole of that area, it is not possible to verify these statements and suggestions. They are hence given partly for what they are worth and partly as indicating that it may be desirable, if not necessary, to study the meteorology of Central Asia, if we wish to obtain an explanation of some of the abnormal features of the hot weather features or conditions which occasionally have a marked influence upon the distribution of the succeeding south-west monsoon rains.

The years 1879, 1880, 1881, 1882, 1890, 1892, 1895, 1896, 1897 and 1898 were all characterized by scanty winter precipitation and more intense hot weather than usual. The following gives a comparison of the variations of temperature, humidity and rainfall for the hot weather periods of these years:—

Year.	Mean variation during hot weather in Extra-Tropical India of			
	Temperature.	Humidity.	Rainfall.	Percentage variation from normal.
	°		Inches.	
1879	+1·9	—6	—1·17	—22
1880	+1·9	—1	—0·62	—11
1881	—0·6	+3	+0·47	+23
1882	+0·1	—3	—0·35	— 7
1890	+0·7	—1	—0·60	—12
1892	+3·1	—5	—0·37	— 8
1895	+0·6	+1	—0·64	—13
1896	+2·3	—6	—1·01	—21
1897	+0·3	—2	—0·30	— 7
1898	+1·5	—5	—1·53	—33
1899	+1·3	—1	+0·44	+10
1900	+0·5	—1	—0·25	— 4

The character and distribution of the cold weather precipitation can be usually foretold in the beginning of December from the meteorological conditions of the months of October and November and the general character of the previous south-west monsoon rains. The more important principles have been stated in the memoir on the "Cold Weather Storms of Northern India." The forecast of the cold weather precipitation of 1899-1900 was in approximate accordance with facts, and hence a confirmation of the theory upon which these forecasts are based.

In hot weather seasons following cold weather periods in which the precipitation in North-Western India has been scanty and below the normal, there frequently occurs heavier rain than usual in North and East Bengal and Assam. There is also very occasionally a very general burst of rain due to a widely spread disturbance giving rise to numerous and prolonged series of thunderstorms. In the hot weather of 1900 the rainfall was slightly heavier than usual in Assam, but was more or less considerably in defect in Bengal.

The following gives the percentage variation of rainfall from the normal in Assam and Bengal in the hot weather seasons of the years characterized by scanty cold weather precipitation in North-Western India:—

Year.	Assam.	East Bengal.	North Bengal.	South-West Bengal.
	Percentage variation of hot weather rainfall from normal.	Percentage variation of hot weather rainfall from normal.	Percentage variation of hot weather rainfall from normal.	Percentage variation of hot weather rainfall from normal.
1879	—3	—55	—10	—68
1880	—38	+15	+7	+6
1881	+16	+72	+30	+31
1882	—4	+2	—21	—8
1890	—15	+6	—10	—23
1892	+53	+16	+52	—22
1895	—4	+19	—6	—17
1896	+9	—2	+11	—29
1897	—6	—22	+5	—6
1899	—1	+29	—10	+5
1900	+5	—24	—26	—12

The meteorology of the south-west monsoon period of 1900 is of much interest on account of the prolonged delay in the establishment of the Bombay monsoon during the months of June and July and of its subsequent strength and abundant rainfall during the latter half of the monsoon. The most marked feature of the meteorology of the year was the contrast between the character, strength and extension of the Bombay monsoon current, more especially considered as a rain-giving current, in the first and second halves of the monsoon period from June to September.

The conditions in India were on the whole favourable to a normal monsoon as a cold weather of scanty snowfall had been followed by a hot weather of somewhat greater intensity than usual. Late and untimely snow fell in April and the first-half of May, but the effects of this on the pressure and temperature conditions in India passed away before the end of the month. There were no strongly marked abnormal pressure features in India at the end of May or beginning of June likely to affect to any large extent the distribution of the rainfall.

The Bay monsoon extended about the usual date, the middle of June, into Bengal, and the rains in that area were, as is generally the case, initiated by a cyclonic storm. The Bay current was determined more largely than usual in June and July to Burma and North-Eastern India and these areas hence as a whole received abundant rain during that period. Cyclonic storms were not so frequent as usual and advanced in June along curved, but on the whole, northerly tracks into Bengal instead of in

the usual west-north-west direction. Only one storm occurred in July, the normal number being three or four.

A considerable change occurred in the character and extension of the Bay current about the end of July. It was during the following two months determined more largely to the Gangetic Plain and Upper India than hitherto and hence diverted to a larger extent than usual from Assam, Cachar and North Bengal. Also a large number of cyclonic storms formed in the north of the Bay and followed each other in rapid succession along west-north-westerly tracks across the West Bengal, Orissa or Ganjam coasts into the Central Provinces, Rajputana or the North-Western Provinces. These storms were largely fed and maintained by the Bombay current after they had passed into the interior and gave remarkably heavy and general rain to the areas over which they passed.

The distribution of the rainfall due to the Bay current was hence very different in the two periods. In the second period the Punjab, the North-Western Provinces, the eastern districts of Rajputana and Central India, Chota Nagpur, the eastern districts of the Central Provinces, Orissa and South-West Bengal obtained unusually heavy rainfall. The rainfall of the period was, on the other hand, more or less in defect in North and East Bengal and Assam.

The contrast between the two periods of the monsoon was hence strongly marked in North-Eastern India although to a less extent than in Western India.

The Arabian Sea monsoon currents began to give heavy rain on the Malabar and South Konkan Coasts on the 12th June. General and heavy monsoon rain extended to Bombay and the West Deccan and the Central Provinces on the 25th June, to Central India and East Rajputana on the 10th July, and to Gujarat, Kathiawar, West Rajputana and the Punjab in the second week of July.

The full extension of the Arabian Sea current from the coast districts into Upper India hence required about four weeks and was effected by a series of four advances of increasing extension and intensity with intervals of partial breaks and local rainfall. After it was fully established, it held with unusual steadiness throughout August and September and gave abundant rain to by far the greater part of the area dependent on it.

These large abnormal variations in the character and rainfall of the south-west monsoon currents are of peculiar interest. Their explanation would probably throw much light on the atmospheric circulation over the Indian Ocean and South Asia.

It has been pointed out in page 951 that the air movement in the South-East Trades region, so far as it is indicated by the observations recorded at Mauritius and Zanzibar, was steadily below its normal amount throughout the whole period from June to September 1900. The deficiency at Mauritius was large and pronounced throughout the whole period and was large at Zanzibar in June and July and small in August and September. The following gives data of each of the years 1898, 1899 and 1900 for comparison :—

Month.	Variation from normal of hourly wind velocity in miles.					
	Mauritius.			Zanzibar.		
	1898.	1899.	1900.	1898.	1899.	1900.
June	−0·5	−1·2	−2·1	−1·2	−0·7	−1·3
July	−0·4	+2·0	−1·0	−1·3	−1·6	−2·5
August	+0·2	+2·3	−2·4	−1·3	−1·3	−0·8
September	−0·6	−0·2	−1·8	−1·1	−1·0	−0·1

The following corresponding data for the Seychelles show that the air movement was very largely below the normal in June and practically normal from July to September :—

Month.	Variation from normal of hourly wind velocity in miles.		
	1898.	1899.	1900.
June	−1·3	−0·3	−2·0
July	+0·2	+2·5	0
August	+1·4	+0·5	+0·3
September	+0·4	−0·8	−0·2

The wind data indicate that the lower air movement in the south-east trades region was remarkably feeble in June. It was feeble throughout the monsoon period to the end of September at Mauritius, and in July at Zanzibar. It was, on the other hand, normal in character in the northern half of the south-east trades region in August and September. There was hence a fairly well marked contrast between the character of the air movement in the first and second halves of the monsoon period, corresponding roughly to the abnormal variations in the rainfall in India.

The available data throw little light on the causes of the remarkable variations of strength of the permanent south-east trades current over the north and centre of the Indian Ocean and of the neighbouring land areas due to general causes and actions.

The utmost that can hence be definitely stated at the present time is that the large variations of the south-west monsoon rainfall of the past year have been apparently related to abnormal features in the air movement in the south-east trades region, and that these variations are not solely due to actions and conditions in the north and centre of the Indian Ocean, but to conditions and actions in the neighbouring land areas and the south of the Indian Ocean, which determine or accompany large modifications of the general atmospheric circulation over the whole of the Indian Ocean and the Indian monsoon area at least.

The only information for the land areas adjacent to the Indian Ocean is from South Africa. It undoubtedly indicates that the weather conditions were very remarkable in that area during the premonsoon period of April and May. Data are given in pages 951-2 of the variations of pressure at the Mauritius, Zanzibar and the Seychelles. They establish that the gradients for south-east winds in the centre and north of the Indian Ocean were much below their normal value in June and July and were normal or slightly below in August and September.

It is difficult to see how these large variations of pressure conditions over an extensive sea area of remarkably uniform conditions can occur except as a result of large variations of conditions (of temperature, rainfall, etc.) over the neighbouring land areas, or of large variations in the general atmospheric circulation.

The available data indicate that the abnormal character of the Arabian Sea monsoon current was, in part at least, due to the abnormal features or conditions in the south-east trades region, including the central and northern areas of the Indian Ocean.

The following extract from a letter received from Mr. Hutchins, Conservator of Forests, Cape Colony, in May 1900, shows the character of the weather and rainfall in South Africa:—

"Briefly, the weather from last November until now resembles the summer of 1895-96, but the failure of the south-east trade is less marked. In 1895-96 it was obvious and striking. This season the failure of the south-east winds is less strongly marked but there is no doubt whatever as to its partial failure this year in South Africa.

"In the Cape Peninsula (which usually receives its rainfall during the winter season) there have been light unseasonable rains all this summer. To it is ascribed a somewhat unhealthy summer and an unusual plague of mosquitos. At an elevation of 1,500 feet on the slopes of Table Mountain where I have a forest station, my Forester declares that he has never known such a failure of the south-east wind which generally in that locality blows with hurricane force for several days together during the summer.

"The character of the weather in South Africa during the past seven months has been as follows:—

"During November and December the south-east winds were generally below the average. There were strongish seasonable winds towards the end of December. In January the peculiar character of the season became more pronounced. February, which is the average month of maximum south-east trade intensity here was characterised by an almost complete failure of the summer rains. In March, especially towards the latter half, there was a recovery to a normal south-east season. The south-easters that prevailed were of the type known in the suburbs of Cape Town as black south-easters. During April there was again a failure of the south-east trade winds. North-west winds and light rain prevailed presaging an early winter.

"There has been an entire absence of south-easters and heavy winter rains have fallen both along the west coast and in the dry north-west area.

"The conditions in South Africa were hence the opposite to those which prevailed during the preceding summer (1899) in that area but were in several respects similar to those which obtained in the summer of 1895-96 immediately antecedent to the drought and famine of 1896-97."

The preceding remarks indicate clearly the abnormal weather which prevailed in South Africa during the premonsoon period of 1900, and suggest the desirability of a thorough investigation of the relations between the variations of strength of the south-east trades, and of the distribution and amount of the rainfall in the land regions dependent on that current, and the strength of the south-west monsoon and intensity and period of its rainfall. This I hope to take up shortly as a general discussion to be published in the Indian Meteorological Memoirs.

It has already been noted in previous annual summaries that areas of deficient rainfall during the south-west monsoon are characterized by increased or excessive local pressure and areas of excessive rain by deficient pressure. These pressure variations are the opposite to those which usually accompany the corresponding temperature variations in the lower atmospheric strata, and are evidently due to decreased or increased ascensional movement accompanying deficient or increased rainfall respectively.

The following table gives the pressure variations in the areas of increased and deficient rain in June and July:—

	Area.	Variation from normal of mean 8 A.M. pressure.		Pressure anomaly.	
		June.	July.	June.	July.
		"	"	"	"
Area of increased rainfall	Burma	—·006	+·003	—·006	—·004
	Bengal	—·015	+·022	—·015	+·015
	Assam	—·011	+·015	—·011	+·008
	Bihar	+·002	+·016	+·002	+·009
	Chota Nagpur	—·004	+·016	—·004	+·009
	Orissa	—·016	+·021	—·016	+·014
Area of decreased rainfall.	North-Western Provinces and Oudh.	+·004	+·005	+·004	—·002
	Punjab	+·001	—·005	+·001	—·012
	Rajputana	+·095	+·011	+·005	+·004
	Central India	+·003	+·017	+·003	+·010
	Central Provinces	0	+·013	0	+·006
	Berar	+·010	+·013	+·010	+·006
	West Coast	+·013	—·003	+·013	—·010

The abnormal pressure conditions in August and September are given in the following table:—

	Area.	Variation from normal of 8 A.M. pressure.		Pressure anomaly	
		August.	September.	August.	September.
		"	"	"	"
Area of decreased rainfall.	Burma	—·042	+·040	—·017	+·012
	Assam	—·026	+·060	—·001	+·032
	North Bengal	—·019	+·058	+·006	+·030
	East Bengal	—·038	+·057	—·013	+·029
	Bihar	—·023	+·040	+·002	+·012
	North-Western Provinces and Oudh.	—·030	+·039	—·005	+·011
Area of increased rainfall.	Punjab	—·009	+·048	+·016	+·020
	Rajputana	—·040	+·022	—·015	—·006
	Central India	—·051	+·009	—·026	—·019
	Central Provinces	—·043	—·006	—·018	—·034
	Berar	—·027	+·013	—·002	—·016
	West Coast	—·003	+·026	+·022	—·002

The effect of these abnormal pressure conditions on the storm tracks of the period was striking. The tendency of the storms of the rains which form in the north-west of the Bay or in Bengal to move westwards along the trough of low pressure, has been frequently pointed out in previous annual summaries. In consequence of the excess of pressure in North-Western and Western India and the deficiency in North-Eastern India in June and July the trough of low pressure in these months ran in a north-west to north direction generally from the Orissa coast instead of in the normal west-north-westerly direction. Two of the three storms of the period followed a much more northerly course than usual and the third storm after advancing along a west-north-west track through the eastern districts of the Central Provinces, recurved very rapidly to north and passed into Central Bengal. The trough of low pressure was hence considerably displaced from its normal position in June and July and the tracks of storms during the period were similarly displaced following closely that of the trough of low pressure. A comparison of the storm track chart of the year (Plate VI) with those for previous years will show at once this noteworthy feature of the meteorology of the year.

The monsoon currents retreated from North-Western India somewhat later than usual in the latter part of September. The Bay current was determined towards North-Eastern India and Burma, during the first week of October and the one storm which formed in this period advanced along a northerly track into Bengal.

The most important changes during this period occurred in the Persian area, North-Western India and the North Deccan. Pressure increased more rapidly than usual in Persia and was in large excess in that area in the beginning of October. This excess of pressure extended south-eastwards and was a prominent feature of the next six weeks in Central India and the North Deccan. The south-west monsoon also withdrew unusually rapidly from the Arabian Sea and the north and centre of the Bay during this period. This may have been due in part to weakness of the south-east trades and the monsoon which was so conspicuous in June and July and in part to the early and pronounced establishment of high pressure and cold weather conditions in the Persian area.

The monsoon currents withdrew from Burma earlier than usual in the fourth week of October and retreated to the south of the Bay during the first half of November when South Madras and the Coromandel coast districts received frequent showers.

The marine data and charts indicate that north-east winds were established over the whole of the Bay (to the north of Lat. 4° N.) in the third week of November and held steadily in December increasing in intensity with the advance of the season.

The most noteworthy feature of the latter half of this period was the extraordinarily high temperature which prevailed in the fortnight of November and in December in a broad belt of country stretching across the head of the Peninsula and including North Bombay, Khandesh, Berar, the Central Provinces and Central India. The westerly winds in North-Eastern India were weaker than usual during the period, whilst the prevailing easterly winds in the Deccan were stronger than the normal. The intermediate belt formed an area of light variable winds and calms. Frequent shifts of wind between east and west occurred accompanied with large changes in the amount of aqueous vapour pressure in the air and also in the amount of cloud. The combination of these conditions, *viz.*, (1) the prevalence of light variable winds alternating between west and east, (2) large changes of the amount of aqueous vapour present in the air and great deficiency in the amount of aqueous vapour, (3) small and deficient cloud which favoured unusually and abnormally high day temperature and to a considerably less degree higher night temperature than usual. These conditions were marked during the whole period. Similar phases of excessive temperature occurred in the months of November and December in the years 1899, 1898, 1896, 1890 and 1877 and the conditions were similar in these years to those prevailing in the hot period in 1900. In each of these years the high temperature conditions in that area were consequent on the early withdrawal of the south-west monsoon winds, and the absence of rain in October. Data showing the actual conditions will be found in pages 953-54.

Appendix.

The following is a brief statement of the hailstorms which occurred during the year 1900 in the Punjab, the North-Western Provinces and the Central Provinces, the reports of which were received too late to be given in the storm sections of the Monthly Weather Reviews of the year :—

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
1900.	PUNJAB.						
20th Mar.	Part of the Sialkot district.					Severe.	Damaged crops, necessitating remission of revenue to the extent of 1,266 rupees.
6th April	24 villages in the Pindigheb tahsil of the Rawalpindi district.				No information.	Severe.	Damaged the rabi crops severely, necessitating remission of revenue to the extent of 1,241 rupees.
27th Sept.	6 villages in the Shakargarh tahsil of the Gurdaspur district.	8 to 9 A.M.		S			Damaged crops to the extent of 2 to 8 annas.
	NORTH-WESTERN PROVINCES.						
22nd Jan.	About 65 square miles in the Mirzapur district.		30 minutes.	S	Half a seer in weight.		No damage.
23rd ,,	About 18 square miles in the Musafir Khana tahsil and about 160 square miles in the Kadipur tahsil of the Sultanpur district.		20 minutes.	SW			Damaged crops to the extent of 8 to 12 annas in the rupee over an area of about 12 square miles.
23rd ,,	6,296 acres in the Azamgarh district.		1 hour.		½ lb in weight.		Damaged crops to the extent of 8 to 12 annas.
1900.	NORTH-WESTERN PROVINCES —*contd.*						
23rd Jan.	119 villages in the Banda district.		15 minutes		Pigeon's egg.		Damaged tiled roofs in three and crops in about six villages.
23rd ,,	A part of the Saidpur tahsil of the Ghazipur district.		30 minutes.		2 lb. ?	Severe.	No information.
23rd ,,	115,486 acres in the Ballia district.	Between 11 P.M. and 1 A.M.	20 minutes.		½ lb.	Severe.	Injured crops to the extent of 3 annas in 209 villages, 4 to 7 annas in 182 villages, 8 to 12 annas in 234 villages and 13 to 16 annas in 167 villages.
23rd ,,	100 villages in the Kunda tahsil of the Pertabgarh district.			NE		Moderately severe.	Injured crops to the extent of six annas or more in 26 villages.
23rd ,,	Bansgaon and Deoria tahsils of the Gorakhpur district.			SW		Severe.	No information.
23rd ,,	40 villages in the Benares tahsil of the Benares district.		15 minutes.		6 ounces in weight.		No information.
23rd ,,	Khutahan and Kerakat tahsils of the Jaunpur district.	Between 6 and 8 A.M.	30 minutes.				Damaged crops severely over nearly the whole of the affected area in the Khutahan tahsil.

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
1900.	NORTH-WESTERN PROVINCES —*concld.*						
31st Jan.	22 villages in the pargana Sitapur, 8 villages in the pargana Labarpur and 40 villages in the pargana Hargam of the Sitapur district.		Half an hour.	W			Damaged crops to the extent of 12 annas in 40 villages and 8 to 10 annas in 30 villages.
31st „	12 villages in the Shahabad tahsil of the Hardoi district.						Damaged crops to the extent of 4 to 12 annas.
1900.	CENTRAL PROVINCES.						
14th Jan.	About 900 square miles in the Nagpur district.	No information.	30 minutes.	W	Gram.	Feeble.	No damage.
14th „	11 villages in the Narsinghpur tahsil of the Narsinghpur district.		30 minutes.	SW		Severe.	Damaged crops severely in five and slightly in six villages.
17th „	About 170 villages in the Bilaspur district.			W	Large.		Injured crops more or less seriously in 159 villages.

TABLE I.—Abstract of Observations taken at 8 A.M. at 218 Stations in India, Burma, etc., in the year 1900.

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of Air.									
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and to constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
	I.—Burma Coast and Bay Islands				+·008							88·5	+0·9	74·5	+0·8	81·5	+0·9	14·0			36·4	22·1
1	Tenasserim and Bay Islands.	Car Nicobar	25	29·831		29·784	30·038	29·631	·407	·150	80·5	87·3		77·7		82·5		9·6	93·8	69·5	24·3	16·5
		Port Blair	61	29·870	+·020	29·862	30·029	29·608	·421	·158	81·1	88·2		78·1		83·2		10·1	96·6	70·0	26·6	17·4
		Mergui	96	29·836	+·005	29·864	29·985	29·657	·318	·143	79·1	87·9	+0·5	73·8	P	80·9	P	14·1	96·1	64·4	31·7	21·7
		Tavoy	26	29·906	P	29·863	30·072	29·699	·373	·151	78·7	88·6	+0·8	72·4	+1·3	80·5	+1·1	16·2	99·2	59·0	40·2	25·0
		Moulmein	94	29·834	P	29·865	30·046	29·588	·458	·183	77·5	89·1	+1·1	73·3	+1·2	81·2	+1·2	15·8	99·4	60·4	39·0	24·7
2	Lower Burma	Rangoon	41	29·877	P	29·855	30·087	29·622	·465	·182	76·7	90·0	+0·8	73·2	+0·3	81·6	+0·5	16·8	105·1	59·5	45·6	25·5
		Bassein	27	29·890	+·007	29·852	30·117	29·588	·529	·188	77·3	88·8	+0·9	74·2	P	81·5	P	14·6	100·2	56·8	41·4	22·2
		Diamond Island	41	29·879	+·008	29·855	30·106	29·561	·545	·183	80·3	85·7	+0·1	77·3	P	81·7	P	7·9	91·6	67·2	24·4	14·9
5	Arakan	Akyab	20	29·875	0	29·838	30·122	29·502	·620	·206	76·5	87·6	+ 1·5									
3	Central Burma	Toungoo	183	29·725	+·005	29·852	29·951	29·474	·477	·181	76·5	91·0	+1·0*	70·3	+0·2†	80·7	+0·6†	20·7	107·7	53·1	54·6	30·6
	II.—Burma Inland				+·009							90·8	+0·6	69·9	+1·1	80·4	+0·9	21·0			56·7	31·8
	Central Burma	Thayetmyo	130	29·778*	+·011*	29·853*	30·046	29·486	·560	·209*	77·3	93·2*	+1·0*	71·3*	+1·0*	82·5*	+1·0*	21·4*	110·8	49·5	61·3	31·4*
4	Upper Burma	Minbu	165	29·741	P	29·851	30·026	29·401	·625	·216	76·9	92·4	+0·1†	72·3	+1·8†	82·4	+1·0†	20·1	110·6	53·0	57·6	30·9
		Vamethin	657	29·232	P	29·856	29·988	29·431	·557	·195	76·0	92·7	+0·6*	70·0	+1·3*	81·4	+1·0*	22·7	109·1	52·2	56·9	34·1
		Mandalay	250	29·668*	P	29·870*	29·966	29·323	·643	·234*	77·8	93·1	+0·9	71·9	+1·1	82·5	+1·0	21·2	110·6	55·5	55·1	31·6
		Kindat	377	29·541	+·007*	29·881	29·852	29·172	·680	·232	71·8	86·5	+0·3*	67·6	+0·8*	77·1	+0·6*	18·9	101·8	51·8	50·0	29·4
		Bhame	381	29·531	?	29·876	29·850	29·174	·676	·236	71·0	86·9	+0·5*	65·5	+0·5*	76·2	+0·5*	21·4	103·6	44·2	59·4	33·5
4(a)	Burma Hill Stations.	Maymyo									65·0	74·3		53·7†		64·2†		21·3†	88·0	33·0	55·0	33·3†
		Taunggyi									65·6	72·2*	P	57·1*	+0·3*	64·7*	P	15·1*	86·7	37·1	49·6	23·0
		Lashio									66·8	83·6	+1·9	60·4	+0·9	72·0	+1·4	23·2	97·5	42·0	55·5	34·2
	III.—Assam				+·008							84·3	+0·8	67·5	+0·7	75·9	+0·7	16·8			51·1	28·2
7	Surma	Silchar	104	29·807	P	29·865	30·117	29·379	·738	·239	73·5	87·8	+2·1†	68·0	+0·7†	77·9	+1·4†	19·8	100·6	49·5	51·1	31·1
9	Brahmaputra	Sibsagar	333	29·577	+·008	29·876	29·913	29·159	·754	·254	69·6	81·5	—0·6	66·5	+0·6	74·0	0	15·0	97·2	46·4	50·8	26·4
		Dhubri	115	29·762	+·008	29·835	30·095	29·201	·894	·270	72·0	83·6	+0·6	68·1	P	75·9	P	15·5	97·2	45·8	51·4	27·0
	IV.—Bengal and Orissa				+·009							87·5	+1·2	69·9	+1·1	78·7	+1·1	17·6			53·4	29·4
6	East Bengal	Chittagong	37	29·901	+·003*	29·837	30·096	29·386	·710	·228	75·9	86·8	+2·4	70·1	+0·6	78·5	+1·5	16·7	96·5	49·1	47·4	27·2
		Noakhali	43	29·835		29·826	30·132	29·429	·703	·237	75·8	86·6		67·6*		77·1*		18·9*	95·2	46·6	49·2	30·6*
		Comilla	36	29·853		29·838	30·151	29·402	·749	·239	75·5	87·8		69·2		78·6		18·6	98·3	49·1	49·2	29·4
		Sirajganj	49	29·810		29·809	30·126	29·221	·905	·275	73·5	86·7		69·1		77·9		17·6	102·0	48·3	53·7	29·3
		Narayanganj	26	29·850	+·012	29·825	30·169	29·378	·791	·256	75·8	86·7	+0·1	71·1	+0·7	78·9	+0·4	15·6	97·6	50·7	46·9	26·2
		Barisal	13	29·862	+·014*	29·821	30·170	29·411	·759	·259	77·4	87·1	+1·9	71·4	+1·3	79·3	+1·6	15·7	98·3	48·7	49·6	26·8
		Mymensingh	59	29·817	+·010	29·829	30·124	29·267	·857	·258	73·6	89·8	+0·5	69·1	+1·2	77·0	+0·9	15·7	94·7	49·7	45·0	27·1
10	Deltaic Bengal	Faridpur	46	29·832		29·827	30·167	29·351	·816	·263	75·0	86·9		69·3		78·2		17·6	100·8	46·5	54·3	29·2
		Jessore	33	29·834	+·010	29·814	30·167	29·314	·853	·281	76·0	87·7	?	70·5	+0·7*	79·1	P	17·2	102·0	45·1	56·9	29·2
		Calcutta	21	29·843	+·011	29·810	30·133	29·228	·901	·303	76·8	88·6	+2·3	71·6	+1·1	80·1	+1·7	17·0	103·4	50·7	52·7	29·1
		Saugor Island	25	29·830	+·004*	29·799	30·176	29·193	·983	·318	78·4	86·7	+1·3	74·4	+0·8	80·6	+1·1	12·3	100·9	55·0	45·9	22·1
		Krishnagar	47	29·823		29·820	30·164	29·256	·908	·291	76·2	89·0		69·6		79·3		19·4	104·0	45·3	58·7	31·5
		Midnapore	149	29·705		29·804	30·060	29·114	·946	·301	74·1	90·5		71·4		81·0		19·1	106·9	53·2	53·7	30·9
11	Central Bengal	Bankura	258	29·529		29·784‡	29·887	28·889	·998	·300	75·4	89·7		70·9		80·3		18·8	110·6	51·1	59·2	31·6
		Raniganj	334	29·515		29·805	29·861	28·854	1·007	·298	74·6	89·7		70·0		79·9		19·6	108·5	49·3	59·4	32·0

* Mean of 11 months. † Mean of 10 months. ‡ Wind observations of 288 days.

I.

at 218 stations in India, Burma, etc., in the year 1900.

Wind direction. Number of winds from									Wind velocity.				Hygrometry, 8 A.M.		Mean cloud amount of year.	Rainfall.					Station.	Meteorological Province or District.	Number of district.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour by anemometer (uncorrected) for year.	Mean velocity (corrected) for year, if possible.	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.		Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.			
																			132·44	139·74	−2·10		I.—Burma Coast and Bay Islands.		
23	34	31	24	21	24	47	25	3	3·9	3·9			86	·892	7·5	110			85·63			5·30	Car Nicobart.	Tenasserim and Bay Islands.	1
5	35	62	12	15	9	64	98	64	7·8		7·4	+7	86	·912	5·8	124			83·92	116·78	−32·86	4·30	Port Blair.		
340	7	2		1	6	3	1	4	2·4	2·1	1·8	+17	88	·862	4·3	137			162·52	170·63	− 8·11	9·61	Mergoi.		
330	3	3				15	5	9	1·0				90	·834	3·3	141			235·58	198·57	+37·01	13·10	Tavoy.		
	15	64	34	45	9	27	5	7	2·5	2·3	2·3	0	87	·819	4·1	124	137·55	−13·55	124·26	131·34	+ 2·92	8·26	Moulmein,§		
7	21	65	29	18	49	93	67	11	4·2		4·4	− 5	88	·815	4·3	107	116·89	−9·89	102·80	95·27	+ 7·53	4·64	Rangoon	Lower Burma	2
130	13	36	13	37	14	22	14	86	4·7		3·8	+24	88	·841	4·5	115	131·54	−16·54	113·54	109·55	+ 3·99	8·14	Bassein.		
23	56	55	41	12	18	61	41	58	9·3	9·3	7·1	+31	80	·857	5·0	104	120·44	−16·44	105·41	118·66	−13·25	6·40	Diamond Island.		
	138	83	68	31	32	5	4	3	2·6		3·7	−30	88	·832	4·6	106	120·09	−14·09	165·35	187·08	−21·73	7·19	Akyab	Arakan.	5
100	36	21	11	104	51	10	2	30	3·3	3·2	3·6	+ 7	83	·785	5·1	111	112·63	−1·63	85·38	79·77	+ 5·61	6·55	Toungoo.	Central Burma.	3
																			49·08	46·55	+2·53		II.—Burma Inland.		
73	29	16	14	52	91	18	35	19	3·7		5·1	−27	76	·731	3·7	73	76·08	− 3·08	48·53	37·67	+10·86	4·50	Thayetmyo	Central Burma.	3
22	25	2	4	160	32	14	18	88	6·0	7·1			81	·741	4·2	59			34·70	28·06	+ 6·64	2·12	Minbu	Upper Burma.	4
88	32	4		125	79	1	2	34	5·5	5·7			81	·739	4·2	65			45·95	34·46	+11·49	2·93	Yamethin.		
220	33	12	10	37	105	32	4	12	4·9	4·9			76	·730	2·7	50			28·83	33·73	− 4·90	4·25	Mandalay.		
291	23	8	3	9	9	4	1	12	1·2	1·2			91	·729	4·6	225			81·24	71·58	+ 9·66	4·66	Kindat.		
134	19	68	17	3	2	24	24	24	2·3	2·6			87	·678	6·0	83			55·21	73·80	−18·59	2·88	Bhamo.		
													90	·572									Maymyo	Burma Hill Stations.	4(a)
	10	12	4	27	110	140	48	14					76	·492	4·3	106			59·41	64·33	− 4·92	3·48	Taunggyi.		
		Not	recorded										85	·572	6·4	94			60·44	58·02	+2·42	3·35	Lashio.		
																			93·65	104·92	−11·26		III.—Assam.		
305		12	30	5	1	1		4	1·3	2·3	2·7	−15	87	·749	5·6	125	138·69	−13·69	108·07	125·33	−17·26	4·00	Silchar¶	Surma.	7
203	47	85	3		9	10	2	6	3·2	2·9	2·4	+21	95	·717	7·0	117	129·16	−12·16	89·45	96·09	−6·64	4·12	Sibsagar	Brahmaputra.	
28	12	78	163	19	22	26	13	4	4·6	5·4	4·7	+15	97	·709	4·6	86	92·14	−6·14	83·44	93·33	−9·89	5·20	Dhubri.		
																			72·87	72·75	+0·12		IV.—Bengal and Orissa.		
1	46	121	38	112	36	1	2	7	5·5	5·4	5·1	+6	84	·774	4·3	86	98·33	−12·33	71·53	105·25	−33·72	4·32	Chittagong	East Bengal.	6
	65	54	60	72	43	41	10	20	3·9	3·6			87	·793	4·6	104	107·63	− 3·63	113·11	118·92	− 0·81	5·28	Noakhali.		
97	40	11	42	73	93	5	1	3	5·3				80	·730	4·3	94	101·97	− 7·97	77·30	89·39	−12·09	3·30	Comilla.		
149	15	21	47	45	45	20	6	17	2·1	2·1			88	·756	5·0	71	78·65	− 7·65	50·34	61·55	−11·21	6·27	Sirajganj.		
25	41	41	53	78	44	31	18	34	5·7		4·5	+27	86	·789	5·4	87	94·57	− 7·57	53·38	73·70	−20·32	2·20	Narayanganj.		
49	39	44	13	48	58	34	10	36	3·6				85	·826	4·3	100	99·81	+ 0·19	81·93	77·95	+ 3·98	4·80	Barisal.**		
215		1	56	73	11	7	1	1	0·6	0·6			87	·745	?	102	104·27	− 2·27	108·12	87·23	+20·89	9·05	Mymensingh.		
200	18	3	20	46	68	8		2	2·0	2·3			89	·799	3·9	95	89·31	+ 5·69	69·89	63·54	+ 1·35	5·45	Faridpur.	Deltaic Bengal.	10
217	17	8	16	38	52	9	4	4	2·1	2·0	3·2	−38	85	·793	4·8	65	88·78	− 3·78	80·11	65·46	+14·65	7·35	Jessore.		
59	52	25	40	24	48	65	15	30	4·3		4·8	−10	83	·796	4·7	90	85·32	+ 4·68	89·32	63·68	+25·64	14·53	Calcutta.		
1	59	51	18	18	85	73	22	23	13·1		10·7	+22	86	·854	5·1	52	83·19	− 1·19	89·81	71·79	+18·02	5·73	Saugor Island.††		
7	33	22	54	60	73	26	41	49	4·0				81	·760	4·2	67	74·27	− 7·27	63·08	54·04	+ 9·04	11·57	Krishnagar.		
67	110	24	5	29	106	8	2	14	2·7	3·5			77	·748	2·6	75	75·92	− 0·92	66·59	55·91	+10·68	5·50	Midnapore.		
205	11	13	35	24	20	7	42	7	2·9	3·4			74	·690	3·9	76	79·08	− 3·08	52·31	56·26	− 3·95	3·12	Bankura	Central Bengal.	11
166	14	9	41	29	9	19	26	52	1·7				76	·685	3·5	69	73·07	− 4·07	49·18	54·30	− 5·12	2·52	Raniganj.		

§ Wind observations of 206 days. ‡ Wind observations of 347 days. ¶ Wind observations of 358 days. ** Wind observations of 331 days. †† Wind observation of 350 days.

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.								Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
11	Central Bengal (*concld.*)	Burdwan	99	29·764	+·011	29·812	30·115	29·172	·943	·283	75·9	89·4	+0·6	71·4	+0·9	80·4	+0·8	18·0	106·4	52·0	54·4	30·1
		Naya Dumka	489	29·362		29·819	29·702	28·941	·761	·277	76·6*	88·8*		69·5*		79·2*		19·3*	106·0	50·0	56·0	31·5*
		Berhampore	67	29·796	+·007*	29·812	30·150	29·237	·913	·282	74·9	86·6*	?	70·2	?	78·2*	?	17·0*	107·2	46·9	60·3	28·2*
		Rampur Boalia	70	29·773†		29·793†	30·139	29·168	·971	·283	75·5	87·3		69·5		78·4		17·8	104·5	46·1	58·4	30·2
		Malda	72	29·808*		29·833*	30·151	29·203	·948	·299*	74·5	87·0		68·0		77·5		18·9	104·2	40·2	64·0	31·6
		Bogra	61	29·804		29·818	30·139	29·184	·955	·273	73·7	87·2	+1·2	68·4	+0·7	77·8	+1·0	18·8	106·3	48·2	58·1	31·6
12	North Bengal	Dinajpur	123	29·740	+·015	29·821	30·079	29·147	·932	·283	72·2	86·5*	+0·7*	65·3*	?	75·8*	?	21·0*	104·1	42·0	62·1	35·0*
		Rangpur	123	29·749		29·830	30·077	29·146	·931	·275	73·1	86·1		62·9†		74·2†		22·5†	100·8	39·8	61·0	36·5
		Jalpaiguri	234	29·598	?	29·847	29·932	29·047	·885	·269	71·0	84·8	+1·2	66·4	+1·1	75·6	+1·2	18·4	98·4	47·1	51·3	29·1
		Cooch Behar	156	29·731		29·846	30·068	29·182	·886	·271	71·6	84·6		67·4		76·0		17·2	97·4	45·9	51·5	28·6
17	North Bihar	Purnea	125	29·751	?	29·833	30·114	29·222	·892	·280	71·0*	86·3	?	66·8	+0·8	76·6	?	19·5	103·9	43·3	60·6	32·9
14	Orissa	Balasore	46	29·814	?	29·807	30·161	29·263	·898	·305	76·5	88·7	+1·0	71·4	+1·3	80·1	+1·2	17·3	104·5	53·5	51·0	29·7
		False Point	21	29·839	+·003	29·802	30·180	29·295	·885	·305	78·3	86·4	+0·6	73·4	+1·2	79·9	+0·9?	13·1	103·0	56·0	47·0	24·5
		Cuttack	89	29·777	+·003	29·801	30·130	29·138	·992	·304	77·7	92·5	+1·2	74·2	+1·3	83·4	+1·4	18·3	109·0	59·1	49·9	29·0
		Puri	20	29·844		29·807	30·187	29·078	1·109	·314	79·6	87·4		76·0		81·7		11·4	95·7	61·6	34·1	21·5
	V.—Gangetic Plain and Chota Nagpur.				+·009							88·4	+0·5	68·1	+1·2	78 3	+0·9	20·3			65·6	34·1
15	Chota Nagpur	Hazaribagh	2,007	27·940	+·011	29·816	28·142	27·246	·896	·280	72·7	85·4	+0·3	67·4	+1·3	76·4	+0·8	18·0	107·0	46·9	60·1	31·2
		Ranchi	2,128	27·721	+·017	29·813	28·020	27·149	·871	·287	72·1	85·0	+1·2	66·4	+2·0	75·7	+1·6	18·6	106·3	48·8	57·5	31·1
		Daltonganj	730?	29·103		29·805	29·467	28·569	·898	·312	71·4	90·5		65·7		78·1		24·8	113·1	36·5	76·6	39·1
		Purulia		29·043†		29·821†	29·381	28·304	1·077	·303†	75·0	89·6		71·5*		81·0*		19·0*	110·7	51·3	59·4	31·3*
		Chaibassa	760	29·077		29·797	29·424	28·467	·957	·303	75·1	90·5	+0·7	69·9	+1·3	80·2	+1·0	20·6	110·2	51·8	58·4	32·2
16	South Bihar	Gaya	375	29·447	+·007	29·782?	28·812	28·868	·944	·286	75·1	89·9:	+0·1†	69·6	+1·0†	79·8	+0·6†	20·3	111·3	44·9	66·4	33·7
		Dehri	351	29·489		29·801	29·862	28·936	·926	·307	76·1	89·5		70·5		80·0		19·0	111·9	46·3	65·6	33·8
		Patna	183	29·571	+·008	29·811	30·043	29·127	·916	·299	74·3	87·2	?	69·2	+1·0	78·2	?	18·0	107·0	44·4	62·6	31·0
		Arrah	190	29·658		29·804	30·028	29·128	·900	·298	74·0	88·1		68·5		78·3		19·6	107·4	42·0	65·4	33·7
		Buxar	239	29·607		29·806	29·993	29·116	·877	·301	75·2	88·4		69·0		78·7		19·4	108·0	42·9	65·1	33·2
17	North Bihar	Bhagalpur	160	29·696		29·812	30·064	29·096	·968	·283	74·7	87·2		68·4		77·8		18·8	104·7	43·0	61·7	31·7
		Darbhanga	166	29·686	+·005†	29·810	30·058	29·172	·886	·283	73·1	86·0	+0·4	66·8	+0·2	77·4	+0·3	17·2	103·3	45·8	57·5	30·1
		Muzaffarpur	178	29·684		29·820	30·071	29·173	·898	·291	73·5	85·1		67·3		76·7		18·8	104·2	43·3	60·9	31·2
		Motihari	224	29·636		29·823	30·030	29·200	·830	·252	72·8	86·1		65·4		75·8		20·8	104·0	39·0	65·0	34·1
		Chapra	181	29·667		29·806	30·047	29·160	·887	·294	73·5	88·1		68·3		78·3		19·9	107·7	43·4	64·3	33·3
18	N.-W. Provinces (East).	Benares	267	29·569	+·004	29·797	29·952	29·100	·852	·306	74·1	89·3	?	66·3	+1·5	78·8	?	21·0	111·3	39·9	71·4	36·4
		Allahabad	309	29·528	+·003	29·798	29·903	29·074	·829	·304	75·3	90·2	+0·3	66·2	+1·7	79·2	+1·0	22·0	113·1	38·9	74·2	37·8
23	N.-W. Provinces (East Submontane).	Gorakhpur	256	29·594	?	29·814	29·991	29·167	·824	·295	73·4	87·3	?	68·0	+0·8	77·7	?	19·3	107·2	42·6	64·6	32·5
19	South Oudh	Lucknow	368	29·466	+·005	29·800	29·847	29·006	·841	·292	73·2	90·1	+0·5	66·8	+1·5	78·5	+1·1	23·3	112·3	40·1	72·2	38·9
20	North Oudh	Bahraich	403	29·436	+·017	29·809	29·815	28·933	·782	·289	73·3	89·8*	+0·5*	66·7	+1·0	79·0*	+0·7*	21·6	107·1	39·5	67·6	35·8
21	N.-W. Provinces (Central).	Cawnpore	416	29·417	+·009	29·796	29·782	28·960	·822	·278	73·7	90·1	+0·6	67·1	+0·8	78·6	+0·7	23·0	112·0	37·5	74·5	39·0
		Mainpuri	516	29·314	+·011	29·810	29·677	28·840	·837	·289	72·8	89·8	+0·3	66·6	+1·1	78·2	+0·7	23·2	113·2	40·0	73·2	39·7
	VI.—Upper Sub-Himalayas				+ 014							86·5	−0·2	65·0	+1·9	76·0	+0·9	22·1			77·3	39·3
24	N.-W. Provinces (West Submontane).	Bareilly	569	29·253	+·014	29·804	29·638	28·811	·827	·290	71·5	87·6	+0·1	66·3	+1·8	77·0	+1·0	21·3	110·5	38·7	71·8	37·1
		Dehra Dun	2,233	27·608	+·002	29·832	27·936	27·195	·743	·262	66·3	81·1	+0·4	61·0	+0·1	71·1	+0·3	23·1	104·5	36·0	66·5	34·5
		Roorkee	887	29·339	+·014	29·817	29·314	28·493	·821	·288	69·4	86·4	−0·8	63·3	+0·8	74·9	0	23·1	112·7	34·8	77·9	40·5

* Mean of 11 months.

† Mean of 10 months.

I—*contd.*

at 218 stations in India, Burma, etc., in the year 1900—contd.

Wind direction. Number of winds from: Calm.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Wind velocity. Mean velocity in miles per hour, by anemometer (uncorrected).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Hygrometry, 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of district.
120	41	39	32	11	33	51	18	20	3·0	3·0	3·3	− 9	80	·722	4·7	77	77·88	− 0·38	55·06	55·13	− 0·07	3·92	Burdwan,	Central Bengal —*concld.*	11
102	21	15	54	44	33	24	23	47	1·7	1·9			73*	·685*	4·6	84	80·15	+ 3·85	58·32	57·64	+ 0·68	3·21	Naya Dumka,		
212	10	2	51	4	59	19	5	3	2·3	2·2	3·5	−37	82	·739	4·3	71	79·22	− 8·22	62·25	55·97	+ 6·28	8·70	Berhampore,		
103	46	27	35	42	42	33	24	13	3·8	3·6			80	·736	4·3	73	74·85	− 1·85	54·31	56·50	− 2·19	4·10	Rampur Boalia,		
	49	24	47	56	53	22	43	71	2·9	2·6			81	·713	3·4	67	69·31	− 2·21	51·49	55·37	− 3·88	4·10	Malda,		
					Not	rec	ord	ed.					83	·728	3·1	77	81·51	− 4·51	63·86	67·41	− 3·55	3·60	Bogra,		
	31	70	109	36	23	32	34	30	4·3	6·0			83	·690	5·4	77	76·91	+ 0·09	85·61	69·90	+15·71	8·97	Dinajpur . .	North Bengal.	12
51	9	83	107	39	42	16	22	5	3·3†	3·4†			87	·735	3·2*	78	80·33	− 2·33	72·62	82·18	− 9·56	6·12	Rangpur,		
19	55	91	74	56	17	9	13	31	1·5	1·9			87	·669	2·0	88	100·62	−12·62	106·15	127·76	−21·61	11·66	Jalpaiguri.		
136	5	46	97	65	11		4	1	1·8	1·8			87	·703	4·4	93			91·35	131·13	−39·78	4·68	Cooch Behar.		
84	60	70	33	20	6	12	42	37	3·5*	5·5*	2·4	+129	93*	·752*	4·0	78	70·60	+ 7·40	77·47	64·11	+13·36	5·60	Purnea . .	North Bihar.	17
66	63	17	4	6	56	80	21	44	4·3				83	·784	4·3	92	82·32	+ 9·68	78·42	65·46	+12·96	5·21	Balasore‡ . .	Orissa.	14
14	59	10	11	17	47	80	59	68	9·6	9·2	9·1	+ 1	85	·858	6·1	74	74·44	− 0·44	73·96	69·87	+ 4·09	6·00	False Point,		
175	2	23	13	4	24	85	35	4	2·6	11·2*	3·4	−24	82	·787	4·8	71	76·99	− 5·99	69·10	63·42	+ 5·68	4·71	Cuttack.		
85	53	13	1	1	7	146	18	39	11·4*				83	·854	3·9	62	66·23	− 4·23	65·16	56·62	+ 8·54	5·37	Puri.		
																			43·98	44·79	−1·01		V.—Gangetic Plain and Chota Nagpur.		
37	28	9	40	23	77	37	87	35	8·2	7·3	6·8	+ 7	65*	·539*	5·3	77	76·10	+ 0·90	52·43	52·38	+ 2·05	4·19	Hazaribagh . .	Chota Nagpur.	15
67	15	24	26	26	50	54	59	63	5·4	6·1			69	·557	4·7	84	82·99	+ 1·01	60·07	56·47	+ 3·60	4·30	Ranchi,		
153	10	28	38	59	12	15	7	3	3·6	4·3			74	·587	2·3	75	63·31	+11·69	41·44	45·48	− 4·04	2·58	Daltonganj.§		
220	7	15	19	17	13	6	30	38	1·2				70	·632	2·7	74			48·07			4·75	Purulia . . .		
224	7	12	12	6	5	55	45	19	1·5	1·3			77	·675	2·9	82	76·20	+ 5·80	58·81	54·10	+ 4·71	3·30	Chaibassa.		
59	2	67	19	40	77	62	34	5	5·9	5·4	2·6	+108	72	·646	3·9	61	57·26	+ 3·74	37·19	44·95	− 7·76	3·35	Gaya . . .	South Bihar.	16
19	6	13	68	30	93	96	35	5	5·6	6·3			67	·615	4·2	59	54·81	+ 4·19	37·02	43·11	− 6·09	2·70	Dehri.		
13	4	65	85	35	18	58	57	30	4·3	5·1	3·0	+70	76	·672	4·1	54	55·23	− 1·23	48·88	45·13	+ 3·75	6·12	Patna.		
46	6	16	85	44	28	43	31	16	2·6	2·7			75	·657	3·1	52	57·06	− 5·06	43·34	43·88	− 0·54	3·37	Arrah.		
11	5	9	109	35	26	34	131	5	5·5	5·0			70	·630	3·8	53	54·82	− 1·82	35·27	41·89	− 6·62	2·40	Buxar . . .		
89	9	51	59	51	22	49	26	9	3·6	3·3			77	·686	4·2	65	61·01	+ 3·99	70·06	46·73	+23·33	6·23	Bhagalpur.	North Bihar.	17
60	20	23	92	69	11	23	45	22	3·6		3·6	0	81	·686	3·1	46	58·46	−12·46	43·23	48·99	− 5·76	5·07	Darbhanga,		
244		17	53	35		3	10	3	2·3	2·1			83	·715	2·1	53	56·07	− 3·07	41·75	47·24	− 5·49	4·10	Muzaffarpur,		
1	8	83	140	23	15	42	27	26	4·2				86	·719	1·9	62	55·43	+ 5·57	49·08	52·98	− 3·90	6·58	Motihari.		
87	4	13	109	28	18	66	33	11	2·7	3·3			78	·670	4·0	48	52·25	− 4·25	39·60	42·43	− 2·83	5·27	Chapra,‡		
148	5	22	58	27	7	54	31	13	2·5	2·8	3·9	−28	72	·622	4·1	66	50·54	+15·46	38·88	39·43	− 0·55	5·47	Benares . . .	N.-W. Provinces (East).	18
52	5	42	72	14	11	48	87	34	5·6	6·5	4·6	+41	69	·612	4·0	51	48·47	+ 2·53	35·77	39·44	− 3·67	2·79	Allahabad,		
49	46	87	52	12	23	18	40	38	2·0		2·5	−20	76	·650	4·0	59	52·29	+ 6·71	42·78	51·35	− 8·57	4·36	Gorakhpur . .	N.-W. Provinces (East Submontane).	23
57	26	17	91	20	18	23	99	13	2·6	2·8	3·1	−10	69	·588	4·5	43	46·83	− 3·83	33·44	38·80	− 5·36	3·33	Lucknow . .	South Oudh.	19
67	34	6	142	13	19	3	58	23	3·2	3·0			76	·653	2·7	42			39·76	40·94	− 1·18	6·45	Bahraich . .	North Oudh.	20
163	16	22	48	21	11	32	33	19	2·1				67	·581	2·9	42	41·40	+ 0·60	33·27	31·80	+ 1·47	7·44	Cawnpore . .	N.-W. Provinces (Central).	21
133	19	3	61	13	26	3	95	10	2·2	2·2			65	·549	5·1	45			35·31	33·09	+ 2·22	4·96	Mainpuri.		
																			38·48	37·82	+0·49		VI.—Upper Sub-Himalayas.		24
218	3	20	56	19	2	8	9	30	1·9	1·8	3·5	−49	70	·561	3·6	50	47·17	+ 2·83	42·22	49·61	− 7·39	3·80	Bareilly . .	N.-W. Provinces (West Submontane).	
225	12		19	17	8	20	28	12	1·5		1·8	−17	69	·468	4·3	86	79·59	+ 6·41	78·14	88·86	−10·72	3·26	Dehra Dun.		
247	3		8	58	12	1	3	33	3·0		2·5	+20	69	·502	3·6	58	46·57	+11·43	47·72	43·82	+ 3·90	4·04	Roorkee.		

‡ Wind observations of 360 days. § Wind observations of 325 days.

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.										
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to correct for gravity at 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
22	N.-W. P., West	Meerut	738	29·081	+·007	29·804	29·973	28·629	·844	·288	70·2	88·2	+0·5	65·2	+1·6	76·7	+1·1	23·0	110·8	38·2	72·6	38·0
26	South East Punjab	Delhi	718	29·106	+·007	29·804	29·478	28·651	·827	·280	72·8	87·6	−1·6	72·3	+1·9	80·0	+0·2	15·3	111·2	42·2	69·0	34·6
28	Central Punjab	Lahore	702	29·120	+·015	29·812	29·546	28·630	·916	·317	70·3	89·4	+0·7	64·2	+2·9	76·8	+1·8	25·2	113·6	34·0	81·6	43·5
27	South Punjab	Sirsa	662	29·181	+·005*	29·826	29·571	28·630	·941	·295	72·8	90·4	−1·1	66·1	+2·6	78·2	+0·8	24·4	117·3	33·5	83·8	42·6
		Patiala	818	29·010		29·816	29·392	28·553	·839	·296	71·3	86·4		64·9		75·7		21·5	112·0	37·0	75·0	37·9
29	Punjab (Submontane).	Ludhiana	812	29·009	+·012	29·811	29·410	28·539	·871	·295	70·0	86·7	?	65·6	+2·4	76·2	?	21·1	115·4	36·6	78·8	38·0
		Sialkot	830	28·995	+·026	29·818	29·395	28·504	·891	·312	70·7	87·8	+0·2	65·1	+3·0	76·5	+1·6	22·7	118·5	35·0	83·5	41·8
		Umballa	892	29·954	+·024	29·884	29·311	28·462	·849	·283	68·1	86·2	−1·4†	64·1	+1·0	75·2	−0·2†	22·1	112·4	34·0	78·4	37·9
31	North Punjab	Rawalpindi	1,676	28·159	+·024	29·848	28·544	27·701	·843	·311	67·1	84·2	+0·1	61·4*	+2·8*	73·0*	+1·4*	25·1*	117·0	31·9	85·1	44·6
	VII.—Indus Valley and North-West Rajputana.		...	...	+·014	...	...	...	...	...	...	91·7	+0·8	66·4	+1·7	79·0	+1·2	25·0	...	...	84·2	42·6
31	North Punjab	Peshawar	1,110	28·750	+·016	29·875	29·197	28·246	·951	·331	67·9	85·0	−0·6	60·5	+1·6	72·8	+0·5	24·5	118·0	30·9	87·1	43·8
32	West Punjab	Khushab	612	29·219	+·028	29·819	29·677	28·694	·983	·329	71·2	89·2	0	64·7	+1·2	77·0	+0·6	24·5	118·4	33·0	85·4	45·3
		Montgomery	558	29·263	+·012	29·801	29·718	28·751	·967	·321	73·7	91·2	?	61·0†	?	74·4†	?	26·5†	119·0	31·0	88·0	46·7
		D. I. Khan	594	29·258	+·008	29·815	29·767	28·709	1·058	·343	70·5	89·6	−0·5	63·6	+1·1	76·6	+0·3	26·0	118·2	33·5	84·7	45·0
		Mooltan	420	29·406	+·005	29·807	29·916	28·876	1·040	·340	72·2	92·2	+1·0	67·3	+2·8	79·8	+1·9	24·9	117·4	34·0	83·4	42·3
47	Sind	Jacobabad	186	29·637	+·003	29·788	30·158	29·135	1·023	·326	74·9	97·6	+2·5	67·5	+2·8	82·5	+2·6	30·1	124·5	34·0	90·5	48·6
		Hyderabad	96	29·751	+·016	29·801	30·201	29·265	·936	·290	75·2	94·0	+1·6	68·9	+0·6	81·8	+1·1	25·8	122·2	36·0	86·2	40·9
		Kurrachee	30	29·854	+·017	29·835	30·259	29·375	·884	·272	76·1	89·6	+1·2	71·2	+1·2	80·4	+1·3	18·4	112·4	40·1	72·3	34·1
51	West Rajputana	Bikaner	771	29·053	?	29·806	29·460	28·564	·896	·291	75·3	92·4	+0·9	69·9	+2·5*	81·2	+1·6*	22·5	118·3	36·1	82·2	39·5
		Pachpadra	380	29·477		29·822	29·881	29·017	·864	·276	74·3	95·0		67·1		81·1		27·9	114·7	26·6	88·1	43·7
		Jodhpur	782	29·053		29·831	29·454	28·593	·861	·280	74·3	92·6		69·2		80·9		23·5	118·8	40·1	78·7	39·2
	VIII.—East Rajputana, Central India and Gujarat.		...	...	+·008	...	...	...	...	...	...	91·2	+1·1	68·7	+2·0	80·0	+1·6	22·4	...	...	70·8	36·5
50	East Rajputana	Jaipur	1,431	28·428	+·010	29·841	28·748	27·853	·795	·274	73·8	90·8	+0·8	67·5	+3·0*	79·2	+2·0*	23·4	113·2	33·0	80·2	40·3
		Kotah	819	29·022			29·381	28·539	·842	·269	77·1	92·0		71·9		82·0		20·1	114·1	46·0	68·1	35·3
		Sambhar	1,254	28·597	+·018	29·839	29·939	28·124	·815	·271	71·9	90·2	+1·4*	66·7	+2·3†	78·5	?	23·5	115·0	33·5	81·5	40·3
		Ajmer	1,611	28·247	+·003*	29·850	28·582	27·813	·769	·262	71·8	89·2	+0·7	66·9	+3·5	78·1	+2·1	22·3	114·4	33·9	80·5	38·1
		Udaipur	1,925	27·949		29 853	28·245	27·557	·683	·248	73·2	88·0		66·1		77·1		21·9	112·1	40·2	71·9	36·6
		Deesa	466	29·411	+·010	29·840	29·742	28·996	·746	·240	76·1	94·6	+1·2	69·0	+2·3	81·9	+1·9	25·6	118·1	41·0	77·1	38·9
46	Kathiawar and Cutch.	Bhuj	395	29·492	?	29·846	29·838	29·061	·777	·242	76·7	91·9	+0·8	69·3	+0·6	80·6	+0·7	22·6	111·8	40·5	71·3	35·5
		Jamnagar	61	29·826		29·833	30·182	29·420	·762	·231	76·6	90·3		68·9		79·6		21·4	107·2	43·2	64·0	34·3
		Rajkot	429	29·460	+·013	29·849	29·749	29·057	·692	·223	75·0	93·9	+1·0	66·9	+1·0	80·4	+1·0	27·1	110·9	40·1	70·8	40·1
		Veraval		29·877	+·008	29·837	30·177	29·507	·670	·203	76·3	85·2	+0·4*	71·6	+0·5*	78·4	+0·4*	13·6	99·6	48·3	51·3	26·5
		Bhavnagar Para	35	29·855	+·001†	29·836	30·156	29·446	·710	·217	76·5	95·1	?	69·6	?	82·0	?	26·0	112·7	41·7	71·0	39·1
49	Central India	Nowgong	757	29·087	0	29·816	29·429	28·639	·790	·270	73·6	89·1	?	67·5	+2·3*	78·4	?	21·6	111·5	37·0	74·5	37·1
		Indore	1,823	28·062	?	29·853	28·331	27·689	·642	·232	74·0	90·6*	+2·4*	65·2	+1·8*	78·6*	+2·2†	24·0*	108·8	36·1	72·7	35·8*
		Neemuch	1,630	28·301†	+·015†	29·817†	28·545	27·845	·700	·237†	73·3	89·3	+0·2	66·1	+1·9†	77·8	+1·3†	23·3	109·6	38·6	71·0	38·1
45	Gujarat	Surat	39	29·860	+·003	29·842	30·131	29·471	·660	·207	77·7	93·5	+2·2	71·1	+1·9*	82·3	+2·3*	22·5	109·6	47·2	62·4	33·6
		Ahmedabad	164	29·746	?	29·860	30·057	29·323	·734	·237	78·2	95·8	+2·3	71·9	+1·2	83·9	+1·8	23·9	113·3	42·2	71·1	35·5
22	N.-W. P., West	Agra	555	29·279	+.002	29·805	29·643	28·796	·847	·290	75·4	90·7	+0·3	69·8	+2·5	80·3	+1·4	20·9	112·5	44·4	68·1	36·4
21	N.-W P., Central	Jhansi	858	28·995	+·008	29·821	29·340	28·576	·764	·277	76·5	91·1	+0·3	71·9	+3·7	81·5	+2·0	19·2	113·9	47·2	66·7	32·6

* Mean of 11 months.

† Mean of 10 months.

I—*contd.*

at 218 stations in India, Burma, etc., in the year 1900—contd.

Wind direction. Number of winds from									Wind velocity.				Hygrometry 8 A.M.		Mean cloud amount of year.	Rainfall.					Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer, uncorrected.	Mean velocity corrected (where possible.)	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.		Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
193	3	10	32	37		12	61	12	1·4	1·3	2·2	−41	69	·536	4·5	42	39·18	+ 2·82	43·89	32·89	+11·00	5·46	Meerut . . .	N.-W. P., West.	22
72	19	8	53	37	15	4	32	73	3·5	3·2	3·6	−11	59	·499	3·7	54	32·74	+20·26	33·65	30·03	+3·62	6·19	Delhi . . .	South-East Punjab.	26
163	29	13	39	52	13	4	32	15	2·4		2·5	− 4	67	·522	3·4	31	28·26	+ 2·74	22·07	21·95	+ 0·12	4·50	Lahore . . .	Central Punjab.	28
19	4	74	9	111	13	78	7	59	4·9	5·8	3·6	+61	63	·564	1·6	14	23·39	− 9·39	7·20	15·55	− 8·35	1·50	Sirsa . . .	South Punjab.	27
94	48	18	47	62	25	4	19	43	4·3				68	·552	3·3	44			40·42			5·33	Patiala.		
146	28	22	10	54	47		54	4	2·7	2·4	1·5	+60	66	·514	3·6	39	37·00	+ 2·00	50·59	30·90	+19·69	6·72	Ludhiana. . .	Punjab (Submontane).	29
88	39	74	30	32	8	7	14	23	2·7		1·8	+50	65	·511	2·7	42	38·36	+ 3·64	28·45	34·12	−5·67	2·12	Sialkot.		
159		3	31	89	2	1	6	74	2·5				75	·548	3·1	47			33·72	33·11	+ 0·61	5·47	Umballa.		
304	8	11	9	7	5	4	3	9	2·2	2·0	2·0	0	64	·454	2·7	54	46·81	+ 7·19	33·72	35·17	− 1·45	2·82	Rawalpindi . .	North Punjab.	31
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7·39	9·66	−2·26	...	VII.—Indus Valley and North-West Rajputana.		
264	21	19		1	21	9	16	23	1·7	1·9	3·4	−44	66	·482	3·3	33	21·56	+11·44	11·53	13·54	− 2·01	1·49	Peshawar . .	North Punjab.	31
119	24	96	56	12	9	27	12	10	5·3	6·8			55	·465	2·2	27	16·40	+10·60	11·32	10·39	+ 1·43	1·35	Khushab . .	West Punjab.	32
48	32	48	49	54	44	47	21	28	7·1	6·2			50	·432	2·3	10	15·70	−5·70	3·31	10·38	− 7·57	0·85	Montgomery.		
203	30	65	2	19	3	1	11	31	1·9	2·0	1·8	+11	66	·543	2·7	20	14·73	+5·27	6·71	8·42	− 1·71	1·54	D. I. Khan.		
157	13	64	6	34	24	55	4	8	2·0	2·5	2·5	0	60	·518	2·0	14	11·72	+2·28	3·83	7·56	− 3·73	0·89	Mooltan.		
151	10	12	67	67	21	2	11	24	2·9	3·1	3·4	− 9	54	·516	2·0	7	6·63	+0·37	5·25	4·08	+ 1·17	2·70	Jacobabad . .	Sind.	47
76	65	6	1	3	27	158	9	22	8·8*	9·2*	10·1	− 9	55	·525	2·2	5	10·14	−5·14	4·44	7·06	− 2·62	2·38	Hyderabad.		
30	7	56	45	7	5	54	131	30	9·2	11·5	13·3	−14	67	·656	2·9	5	9·73	−4·73	1·99	7·92	− 5·93	1·18	Kurrachee.		
29	34	49	32	21	46	60	71	23	7·5*		4·8	+56	55	·544	2·4	17			9·21	11·95	− 2·74	1·64	Bikaner . .	West Rajputana.	51
13	23	48	52	21	56	99	33	19	8·1	9·6*	5·8	+66	55	·520	3·0	26			7·31	10·28	− 2·97	0·71	Pachpadra.		
72	29	66	19	4	18	91	56	10	6·6	5·9			52	·489	3·4	24			15·94	14·16	+ 1·78	3·08	Jodhpur.		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30·18	30·13	+0·07	...	VIII.—East Rajputana, Central India and Gujarat.		
73	44	76	27	6	3	26	57	53	4·0		5·1	−22	56	·492	3·4	34	38·70	− 4·70	24·86	28·76	− 3·90	3·47	Jaipur . . .	East Rajputana.	50
111	31	26	17	15	1	42	65	57	4·6	5·4			52	·496	2·3	46			43·87	29·92	+13·95	4·37	Kotah.		
153	31	30	34	12	7	5	65	28	5·7		6·7	−15	60	·486	3·4	40	32·56	+ 7·44	21·43	22·91	− 1·48	2·01	Sambhar		
134	17	42		13	5	52	33	19	5·5		4·3	+28	65	·539	3·4	35	32·99	+ 2·01	25·64	22·18	+ 3·46	3·60	Ajmer.		
198	18	10	2	6	6	36	50	39	3·0	3·0			56	·484	2·6	41			38·10			4·17	Udaipur.		
	16	70	76	15	23	71	70	24	10·6		10·3	+ 3	57	·525	3·1	26	28·31	− 2·31	28·97	26·73	+ 2·24	4·52	Deesa.		
5	42	9	12	4	18	47	174	34	11·9		10·2	+17	72	·695	3·4	12			17·21	14·61	+2·60	4·45	Bhuj‡ . . .	Kathiawar and Cutch.	46
1	19	43	26	15	63	121	57	20	14·9	15·9			65	·644	2·2	19			21·91			5·20	Jamnagar		
32	65	12	32	1	17	42	129	23	9·7	9·7	9·2	+ 5	67	·640	2·4	27	33·94	− 6·94	39·49	28·67	+10·82	9·18	Rajkot,§		
1	80	62	4	12	8	40	98	60	7·8	9·2	7·9	+16	70	·664	3·3	25			34·59	21·02	+13·57	7·69	Veraval.		
2	33	5	3	9	49	63	73	128	7·3	7·5			55	·548	3·0	37			32·34	22·58	+9·76	2·40	Bhavnagar Para.		
58	39	19	55	7	21	47	96	23	2·6	2·6	2·5	+ 4	66	·559	4·6	56	49·75	+ 6·25	31·07	44·43	−13·36	2·42	Nowgong . .	Central India	49
122	30	33	2	9	10	21	106	32	4·5		4·2	+ 7	62	·538	3·7	50	48·00	+ 2·00	34·28	34·91	− 0·63	4·10	Indore.		
50	8	88	42	9	1	79	68	21	8·6	7·7	10·1	−24	64	·570	3·1	44	39·18	+ 4·82	38·62	32·26	+ 6·36	3·51	Neemuch.		
33	38	68	27	26	19	104	21	19	5·1	3·4	9·0	− 7	65	·656	3·4	26	49·36	−13·36	24·19	46·34	−12·15	6·30	Surat‖ . . .	Gujarat.	45
2	50	62	48	9	21	86	7	72	3·7				57	·582	3·2	27			16·02	37·99	−21·97	2·03	Ahmedabad.¶		
38		53		71		108	1	94	4·3	4·6	4·2	+10	61	·545	2·9	44	38·91	+ 5·09	22·15	29·12	− 6·97	2·28	Agra . . .	N.-W. P., West.	23
115	19	19	33	10	51	35	66	17	3·4		2·9	+17	56	·519	2·0	57	49·07	+ 7·39	38·49	39·63	− 1·14	3·22	Jhansi . . .	N.-W. P., Central.	21

‡ Wind observations of 345 days.
§ " " 353 "
‖ " " 355 "
¶ " " 357 "

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to constant gravity at Lat. 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
	IX.—Deccan.		...	...	+·011	...	...	...	...	...	...	92·4	+2·4	69·0	+2·1	80·7	+2·3	23·5	...	...	61·2	34·9
38	Bombay Deccan	Belgaum	2,539	27·381	+·015	29·859	27·548	27·148	·400	·152	72·6	86·2	+2·0	64·8	+0·9	75·6	+1·5	21·4	101·8	49·4	51·9	30·5
		Sholapur	1,590	28·315	+·010	29·360	28·533	28·047	·486	·175	77·4	95·2	+2·6*	70·2	+2·6	82·7	+2·7*	25·0	110·2	55·6	54·6	34·8
		Poona	1,840	28·076	+·012	29·882	28·318	27·769	·549	·178	72·7	91·8	+3·1	65·2	+0·2	78·5	+1·6	26·7	108·0	48·0	60·0	37·0
		Bijapur	1,946	27·975	+·019†	29·870	28·167	27·716	·451	·162	75·9	93·2	+3·7	69·0	+1·5	81·1	+2·6	24·2	108·2	54·6	53·6	34·0
40	Khandesh	Malegaon	1,430	28·461	+·008	29·857	28·727	28·080	·647	·216	76·1	94·7	+3·7	66·2	+1·3	80·4	+2·6	28·6	110·8	40·8	70·0	40·3
		Ahmednagar	2,152	27·778	?	29·380	28·020	27·464	·556	·186	75·1	92·5	+3·3	64·9	+0·7*	78·5	+2·0†	28·0	106·4	47·4	59·0	38·2
41	Berar	Akola	930	28·950	+·013	29·841	29·257	28·595	·662	·227	76·3	95·4	+3·3	68·6	+1·9	82·0	+2·6	26·8	114·5	46·2	68·3	39·7
		Amraoti	1,215	28·664	?	29·940	28·957	28·257	·700	·238	77·8	94·3	+2·7	70·6	+2·4	82·4	+2·6	23·7	113·0	52·9	60·1	34·8
42	Central Provinces, West.	Khandwa	1,044	28·834	+·015	29·848	29·119	28·442	·677	·242	75·7	93·8	+2·7	68·7	+2·3	81·3	+2·5	25·1	112·2	38·2	74·0	38·4
		Hoshangabad	1,006	28·867	+·018	29·848	29·138	28·441	·757	·290	75·1	92·3	+2·1	68·6	+2·0*	80·5	+2·1	23·7	113·0	41·2	71·8	36·2
		Nagpur	1,025	28·832	+·005	29·823	29·143	28·404	·744	·259	77·0	94·5	+2·9	70·8	+2·4	82·7	+2·7	23·7	114·2	52·2	62·0	35·4
43	Central Provinces, Central.	Chanda	634	29·251	+·003*	29·836	29·567	28·980	·587	·236	78·4	95·3	+2·8	71·8	+3·4	83·6	+3·1	23·5	114·7	52·7	62·0	35·8
		Seoni	2,033	27·837	+·012	29·825	28·130	27·417	·713	·259	74·2	89·8	+2·4	66·7	+2·0	78·3	+2·2	23·1	109·9	47·5	62·4	34·1
		Jubbulpore	1,327	28·509	?	29·813	28·826	28·078	·748	·272	72·3	89·9	+1·9	66·6	+2·3	78·3	+2·1	23·3	110·5	44·4	66·1	35·8
		Saugor	1,807	28·055	+·006*	29·830	28·350	27·658	·692	·257	74·6	93·6	+1·0	68·4	+2·9	78·4	+2·0	21·0	109·0	42·6	66·4	34·5
49	Central India	Sutna	1,040	28·795	+·003	29·812	29·131	28·350	·781	·275	74·6	93·7	+1·0	68·3	+3·3	78·5	+2·1	20·3	110·6	38·1	72·5	35·3
44	Central Provinces, East.	Raipur	970	28·881	+·007	29·811	29·211	28·419	·792	·290	77·2	91·6	+1·9*	70·9	+2·0	81·2	+1·8	20·7	112·5	51·8	60·7	33·0
		Sambalpur	486	29·366	?	29·807	29·712	28·759	·953	·302	77·3	92·1	+1·3	72·3	+2·4	82·2	+1·8	19·7	113·1	52·2	60·9	32·2
39	Hyderabad, North.	Indur									73·6	93·1		70·7		82·0		22·4	111·4	52·1	59·3	32·8
		Bidar	2,165	27·692		29·787?	27·950	27·578	·372	·119	73·0	90·6		62·7*		77·0*		28·4	103·5	42·6	60·9	37·1*
39	Hyderabad, South	Gulbarga	1,502	28·413		29·876	28·676	28·134	·542	·181	77·7	94·5		70·7		82·6		23·8	110·2	54·3	55·9	35·0
		Raichur	1,309	28·594*	+·020†	29·855*	28·823	28·352	·471	·169	79·1	94·1	+2·2	73·2	+1·5	83·6	+1·9	20·9	109·0	59·2	49·8	31·1
		Hyderabad (Dn.)	1,690	28·206	+·011*	29·851	28·444	27·898	·546	·193	76·4	92·0	+1·9	71·0	+3·2*	81·5	+2·6*	21·0	109·9	55·3	54·6	31·0
		Secunderabad	1,787	28·113		29·856	28·347	27·809	·538	·189	75·4	92·9	+2·8	70·5	+2·6	81·7	+2·7	22·3	110·8	54·7	56·1	32·8
		Hanumkonda	865	29·005			29·264	28·688	·576	·211	78·1	93·0		72·8		82·8		20·4	112·2	56·2	56·0	33·5
	X.—West Coast.		...	...	+·013	...	...	...	...	...	...	86·7	+0·2	75·0	+0·9	80·9	+0·6	11·6			30·7	19·0
37	Konkan	Bombay	37	29·885	+·016	29·862	30·097	29·553	·544	·187	78·7	86·3	+0·3	75·5	+0·9	80·9	+0·9	10·8	93·5	61·0	32·5	18·3
		Ratnagiri	110	29·804	+·016	29·852	29·980	29·503	·477	·166	78·7	87·6	+0·3	73·9	+1·2	80·8	+0·8	13·7	99·4	60·0	37·4	23·0
		Mormugao	60	29·868	+·005*	29·863	30·040	29·571	·469	·160	78·3	85·9	−0·3	75·5	+0·4	80·7	0	10·4	92·0	65·8	26·2	17·2
		Goa	199	29·723	+·016	29·860	29·982	29·449	·533	·156	78·3	85·0	−1·0*	74·9	+0·5	80·0	−0·2*	10·1	92·0	62·0	30·0	17·1
		Karwar	44	29·894	+·019	29·870	30·047	29·624	·423	·152	75·9	86·4	+0·4	73·1	+0·6	79·8	+0·5	13·3	94·3	59·5	34·8	21·5
33	Malabar	Cochin	11	29·945	+·013	29·883	30·054	29·768	·286	·129	79·9	89·5	?	76·1	+1·5	82·8	?	13·4	95·5	66·8	28·7	20·2
		Calicut	27	29·919	+·005	29·875	30·043	29·721	·322	·143	79·4	87·4	+0·7	75·2	+1·4	81·4	+1·1	12·2	94·9	63·5	31·4	19·3
		Mangalore	65	29·883	+·012	29·880	30·018	29·625	·393	·141	79·2	87·3	+0·7	75·2	+1·2	81·3	+1·0	12·1	94·3	64·0	30·3	19·7
		Trivandrum	198	29·735	?	29·865	29·846	29·577	·269	·132	78·3	84·8	+0·9*	76·0	?	80·4	?	8·8	91·0	66·0	25·0	14·3
	XI.—South India.				+·012							91·6	+1·5	73·0	+1·2	82·3	+1·3	18·5			46·1	28·5
57	Madras, South	Pamban	37	29·895		29·858	30·042	29·675	·367	·138	82·1	88·1		76·3		82·2		11·8	94·3	70·7	23·6	16·6
		Tinnevelly	168	29·772	?	29·871	29·949	29·557	·392	·152	82·5	95·2	+1·0	77·1	+0·4	86·2	+0·7	18·1	106·6	66·9	39·7	27·6
		Madura	447	29·479	+·013	29·864	29·637	29·248	·389	·155	81·6	94·6	+0·4	74·8	+1·2	84·7	+0·8	19·8	103·5*	63·2	40·3	28·2
		Periyakulam		28·993			29·148	28·762	·386	·150	78·5	93·3		70·6		82·0		22·7	103·2	52·1	51·2	33·2
34	Madras, South Central.	Salem	940	29·013	+·006	29·898	29·195	28·780	·415	·151	79·1	95·0*	+2·2*	72·6	+2·4	83·8*	+2·4*	22·4*	108·0	55·5	52·5	32·4*
		Coimbatore	1,348	28·590	+·014	29·891	28·759	28·372	·387	·146	76·5	90·6	+0·4	70·8	+1·2	80·7	+0·9	19·8	102·4	57·2	45·2	29·1
35	Coorg	Mercara	3,781	26·237	+·006		26·370	26·046	·324	·123	66·8	77·8	+1·4	62·8	+1·7	70·3	+1·6	15·0	90·5	53·7	36·8	24·1

* Mean of 11 months. † Mean of 10 months.

I—*contd.*

at 218 stations in India, Burma, etc., in the year 1900—contd.

Wind direction. Number of winds from									Wind velocity.				Hygrometry 8 A.M.			Rainfall.					Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer (uncorrected).	Mean corrected velocity (where possible).	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	38·75	41·30	−2 48	...	IX.—Deccan		
47	22	25	43	33	21	33	90	51	14·0		15·7	−11	66	·522	4·4	70	53·08	−13·08	62·74	48·74	+14·00	4·75	Belgaum . .	Bombay, Deccan,	38
10	19	36	37	58	6	61	40	97	11·4	8·2	8·9	− 8	48	·456	3·6	36	51·00	−15·00	18 93	33 90	−14·97	2 19	Sholapur,		
56	3	15	18	16	4	79	120	63	11·8	13·3	10·0	+33	59	·489	3·5	39	49·36	−10·56	27.45	28·74	− 1·29	2 68	Poona .		
64	2	1	23	28	4	54	125	64	5·7	5·6			62	·555	2·9	33	43·52	−10·52	13·08	16·58	− 3·50	3·23	Bijapur.		38
1	27	19	11	5	12	36	192	61	8·2	9·4	7·2	+31	43	·463	1·6	28	40·57	−12·57	12·95	25·60	−12·65	1·70	Malegaon. .	Khandesh.	19
32	62	30	11	28	17	18	68	99	9·0	10·9			61	·539	2·1	28			19·01	23·58	− 4·57	2·50	Ahmednagar.		
53	5	22	29	27	15	35	106	73	7·5	7·4	5·5	+35	54	·500	3·5	·40	50·58	−10·58	40·72	37·90	+ 2·82	8·81	Akola . . .	Berar.	11
	25	69	46	15	18	66	86	32	9·3	8·2	4·7	+74	54	·517	3·6	40	50·99	−10·99	30·45	37·41	− 6·96	3·78	Amraoti.‡		
89	5	11	30	8	9	14	117	82	7·4		5·4	+37	53	·487	3·0	45	44·36	+ 0·64	36·25	33·29	+ 4·96	4·87	Khandwa . .	Central Provinces, West.	42
13		137	1	19		150		45	4·4		3 0	+47	66	·580	2·6	48	60·53	−12·53	49·46	56·58	− 7·12	4·53	Hoshangabad.		
187	23	25	7	4	6	28	47	38	7·0		6·4	+ 9	57	·516	4·5	56	64·93	−8·93	49·62	50·91	− 1·29	7·83	Nagpur.		
141	17	12	26	17	24	24	87	17	3·0		3·7	−19	62	·504	3·9	58			61·28	58·53	+ 2·75	6·24	Chanda . .	Central Provinces, Central.	43
	64	74	22	26	23	43	42	70	3·0		3·9	−23	60	·500	3·6	68	73·65	− 5·65	42·77	58·89	−16·12	4·08	Seoni.		
29	24	27	16	61	74	44	64	26	3·6		3·3	+ 9	67	·533	3·5	68	65·62	+ 2·38	56·70	60·37	− 3·67	6·40	Jubbulpore.		
1	21	43	53	47	28	54	102	15	3·1	3·5	3·5	0	60	·530	3·2	65	56·93	+ 8·07	43·81	48·93	− 5·12	3·87	Saugor.		
60	54	25	39	11	19	47	55	55	4·8	5·1	6·1	−16	62	·521	3·1	55	52·91	+ 2·09	42·89	46·48	− 3·59	3·43	Sutna . . .	Central India,	42
126	13	35	12	13	12	105	28	15	6·2	5·7	5·6	+ 2	62	·567	2·9	69	65·61	+ 3·39	59·06	52·52	+ 6·54	5·85	Raipur . . .	Central Provinces, East.	44
1	92	65	39	26	29	56	28	29	3·8	3·8	2·3	+65	68	·644	5·1	79			73·43	68·05	+ 5·38	4·10	Sambalpur.		
138	19	9	2	24	7	66	31	69	7·9	7·5			68	·672	3·4	47			45·00	37·40	+ 7·60	3·47	Indur.	Hyderabad, North	29
4	50	25	22	20	13	102	90	39					67	·633	2·4	46			34·57	42·04	− 7·47	2·64	Bidar.		
62	29	51	53	20	19	22	62	47	11·0	10·5			60	·576	3·4	45			29·15	29·19	− 0·04	3·13	Gulbarga . .	Hyderabad, South.	53
37	15	13	25	63	16	105	44	53	10·9	10·7			64	·639	3·3	38			23·78	28·22	− 4·44	2·53	Raichur.		
151	11	5	21	30	3	4	81	57	5·8	5·6			65	·568	3·8	51			30·47	33·72	− 3·25	1·98	Hyderabad (Dn.)		
34	3	41	60	47	1	36	73	70	7·3		6·5	+12	67	·585	3·6	51			26·22	33·72	− 7·50	1·91	Secunderabad.		
67	20	14	60	128	48	8	4	16	9·3	7·9			71	·687	3·8	48			36·88			4·00	Hanumkonda.		
																			98·76	103·13	−4·37		X.—West Coast.		
10	41	83	61	19	13	28	75	32	10·3		12·2	−16	78	·777	4·2	67	76·65	− 9·65	69·14	74·12	− 4·98	7·52	Bombay . .	Konkan.	37
94	46	17	41	48	5	26	42	46	5·7	5·7	10·2	−44	73	·727	3·6	89	97·80	− 8·80	98·29	111·65	−13·36	11·98	Ratnagiri.		
42	62	15	71	46	15	11	49	52	9·1				84	·830	4·2	85			93·51	91·80	+ 1·71	8·21	Mormugao.		
5	33	66	133	7	7	23	56	34					81	·791	5·1	85			90·20	103·32	−13·12	8·32	Goa.		
50	74	58	56	3	3	27	49	43	5·3				83	·731	3·7	96	109·07	−13·07	136·61	129·19	+ 7·42	10·43	Karwar.		
37	136	101	5	2	5	10	35	34	6·4				81	·837	5·0	111	132·16	−21·16	97·15	116·52	−19·37	7·30	Cochin . . .	Malabar.	33
77	34	58	63	21	10	12	22	65	7·2	9·1			83	·824	4·3	108	113·90	−5·90	119·12	113·13	+ 5·99	6·31	Calicut.		
169	5	13	69	48	5	9	22	34	2·5		3·1	−26	80	·810	6·3	117	118·30	− 1·30	143·07	122·74	+20·33	10·56	Mangalore.		
75	119	16	21	3	2	5	17	107	6·0				81	·801	5·3	88			41·72	65·69	−23·97	2·45	Trivandrum.		
...	...	...	...	...	..	..	...	...	...	...	...	...	...	..	...	...	...	...	31·86	36·63	−4·37	...	XI.—South India.		
5	31	64	50	55	18	103	14	25	10·7	11·6*			78	·858	3·0	53	33·10	+19·90	42·70	37·00	+ 5·70	3·45	Pambau . .	Madras, South	57
	101	36	2	9	8	43	63	103	5·9	5 6			69	·769	5·0	36	43·00	− 7 00	24·34	28·78	− 4·44	2·38	Tinnevelly.		
52	88	68	26	13	3	25	20	70	2·7	2·7	4·2	−36	72	·783	4·1	44	43·71	+ 0·29	32·48	32·69	+ 0·21	2·66	Madura.		
186	15	30	29	20	15	16	24	29	2·3	3·0			72	·697	3·9	59			29·94			1·60	Periyakulam .		
106	2	54	47	35	22	61	34	4	5·0	4·5	4·4	+ 2	75	·753	4·1	60	66·50	− 6·50	34·90	41·44	− 7·04	2·49	Salem . . .	Madras, South, Central.	34
	1	32	149	15	21	72	63	12	3·0		4·3	−38	83	·765	6·0	59	45·20	+13·80	30·36	21·24	+ 9·12	5·57	Coimbatore.		
81	28	37	61	2	1	19	69	87	6·6	6·2	5·3	+ 7	85	·560	6·3	126	137·20	−11·20	142·94	129·37	+13·57	4·62	Mercara . .	Coorg.	35

‡ Wind observations of 357 days.

Table

Abstract of observations taken at 8 A. M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
36	Mysore	Chitaldroog	2,405	27·531	+·009*	29·859	27·700	27·309	·391	·150	75·3	89·3	+2·9	63·9	+1·7	76·1	+2·3	20·4	102·2	56·9	45·3	29·2
		Bangalore	3,021	26·955	+·007	29·884	27·112	26·748	·364	·144	71·2	86·1	+2·2	55·6	+1·7	75·9	+2·0	20·5	93·8	51·9	47·9	29·5
		Hassan	3,091	26·896		29·899	27·086	26·675	·411	·141	72·0	84·8		63·1		74·0		21·6	97·3	46·0	51·3	31·3
		Mysore	2,518	27·452	+·015*	29·897	27·607	27·234	·373	·145	73·5	87·8	+1·5	59·8	+1·0	77·4	+1·2	21·0	100·1	53·4	46·7	30·4
56	Madras, East-Coast, South.	Negapatam	31	29·899	+·016	29·859	30·089	29·557	·432	·158	82·5*	90·7*		71·1*	+1·9*	84·1*		13·3*	105·5	66·9	38·6	23·3*
		Cuddalore	12	29·911	+·015*	29·852	30·117	29·645	·472	·160	80·9	91·2	+0·8	75·0	+1·0*	83·1	+0·8*	16·3	106·8	59·3	47·5	25·9
		Trichinopoly	255	29·676	+·009	29·865	29·854	29·443	·411	·147	80·8	95·6	+1·7	75·4	+1·7	85·5	+1·7	20·2	106·7	60·4	46·3	30·5
		Madras	22	29·898	+·008	29·850	30·101	29·601	·500	·186	81·8	91·8	+1·0	75·4	+0·8	83·6	+0·9	16·4	110·0	62·0	48·0	26·0
55	Madras, East-Coast, Central.	Nellore	71	29·835	+·020	29·840	30·085	29·548	·537	·188	82·0	95·5	+1·4	75·7	+0·6	85·6	+1·0	19·8	114·8	62·1	52·7	30·6
		Masulipatam	15	29·890	+·020	29·840	30·153	29·548	·605	·197	81·2	91·2	+0·8	75·3	+1·1	83·3	+1·0	15·9	110·2	59·2	51·0	27·4
54	Madras, Central	Cuddapah	433	29·476	+·008	29·849	29·702	29·211	·491	·168	82·7	97·9	+3·4*	75·9	+1·7	86·9	+2·5*	22·1	114·3	57·8	56·5	33·9
		Kurnool	924	29·976	+·004†	29·850	29·237	28·704	·533	·180	78·0	95·6	+2·5	72·2	+1·7	83·9	+2·1	23·5	111·3	51·2	60·1	35·6
		Bellary	1,475	28·439	+·012	29·864	28·643	28·207	·436	·158	78·7	94·8	?	72·5	+2·2	83·7	?	22·3	107·7	55·1	52·6	33·3
52	Madras, East-Coast, North.	Cocanada	26	29·860	+·016	29·821	30·142	29·496	·646	·211	80·6	90·6	+1·6	75·6	+0·8	83·2	+1·2	15·0	106·6	64·0	42·6	27·0
		Waltair (Vizag)	226	29·646	+·008	29·814	29·946	29·239	·707	·240	80·6	87·7	+0·4	76·0	+0·5	81·9	+0·4	11·6	101·4	66·4	35·0	22·1
		Gopalpur	21	29·840	+·011	29·801	30·186	29·333	·853	·284	79·0	86·7	+0·9	73·8	+0·5	80·3	+0·7	12·9	97·8	59·1	38·7	23·1
	XII.—Hill Stations.		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
48	Baluchistan	Shahrig		25·746			26·020	25·380	·640	·280	67·4	82·5		48·5		65·6		34·0	112·0	15·0	97·0	54·1
		Pishin										75·4		44·0		59·7		31·3	103·9	3·0	100·9	52·3
		Quetta	5,502	24·637	+·022		24·928	24·364	·564	·250	56·5	73·3	+0·1	45·4	+0·9	58·4	+0·5	27·9	100·1	3·3	96·8	49·5
		Kalat									56·5	73·1		38·4		55·8		34·7	100·3	0	100·3	58·1
		Chaman	4,311	25·711	?		25·969	25·383	·586	·255	64·4	78·5	−0·7	54·9	+0·7	66·7	0	23·6	109·2	18·1	91·1	46·4
26	Punjab	Leh	11,503	19·722	+·018		20·177	19·297	·880	·337	37·8	54·2	2·7	29·7	−0·1	42·0	−1·4	24·5	82·2	−6·0	88·2	41·6
		Srinagar	5,204	24·898	+·014		25·233	24·607	·626	·317	49·8	65·6	−0·3	45·1	+1·3	55·4	+0·5	20·5	91·3	14·1	77·2	38·8
		Skardu		22·878			23·416	22·584	·832	·390	49·1	63·6		43·2		53·4		20·4	98·1	14·1	84·0	40·3
		Dras		20·819			21·297	20·430	·867	·354	35·5	52·9		22·3		37·6		30·6	88·5	−29·4	117·9	53·9
		Gilgit		25·137			25·671	24·558	1·113	·434	60·3	73·9		53·7		63·8		20·2	108·4	23·7	81·7	49·7
		Chitral		24·653			25·000	24·312	·688	·282	56·4	75·7		48·6		62·2		27·1	104·7	23·0	81·7	46·0
		Killa Drosh									57·3	73·2		51·8		62·5		21·4	105·0	23·6	81·4	42·3
		Para Chinar	6,000								57·9	69·1		49·1		59·1		20·0	98·1	11·8	86·3	40·1
		Cherat		25·685	+·018		25·945	25·351	·594	·279	61·4	72·3	−1·1	57·0	+0·4	64·7	−0·4	15·3	106·5	27·0	79·5	36·8
		Murree	6,333	23·855	+·037		24·060	23·566	·494	·241	55·8	63·6	−2·2	50·1	−0·6	56·9	−1·4	13·5	94·4	21·5	72·9	34·5
		Poo										61·5		41·3		51·4		20·2	85·7	12·6	73·1	35·9
		Simla	7,224	23·118	+·026		23·317	22·872	·445	·219	53·6	60·8	−0·7	49·6	−0·3	55·2	−0·5	11·2	83·2	22·2	61·0	26·7
25	North-Western Provinces.	Chakrata	7,022	23·293	+·039		23·509	23·070	·439	·215	53·7	62·9	−1·3	49·0	−0·5	56·0	−0·9	13·9	81·3	26·8	54·5	28·7
		Mussooree	6,705	23·556	+·024		23·807	23·308	·499	·227	55·0	63·0		50·8		56·9		12·2	84·3	30·9	54·3	27·8
		Ranikhet	6,069	24·105	+·032		24·333	23·944	·389	·220	57·6	67·3	−0·3	53·5	+0·4	60·4	+0·1	13·8	86·1	30·0	56·1	28·2
		Muktesar		22·851			23·054	22·627	·427	·202	54·0	63·9		48·2		56·1		15·7	82·0	25·4	56·6	30·6
13	Bengal	Yatung	10,480?									53·8		35·2		44·5		18·6	69·1	10·9	58·2	32·3
		Darjeeling	7,409	23·019	+·051		23·192	22·708	·484	·223	52·5	59·5	+1·2	46·4†	+0·4*	52·6*	+0·8*	12·4*	79·7	31·0	48·7	24·0
		Gantok	5,660	24·490			24·692	24·144	548	·236	58·0	68·7		37·6		53·1		31·0	80·6	21·0	59·6	42·0

* Mean of 11 months.

† Mean of 10 months.

I—*contd.*

at 218 stations in India, Burma, etc., in the year 1900—contd.

Wind direction. Number of winds from									Wind velocity.				Hygrometry 8 A.M.		Mean cloud amount of year.	Rainfall.						Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer (uncorrected).	Mean velocity (where possible).	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.		Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
3	4	14	55	42	12	91	110	29	9·3	8·2			67	·587	5·0	34			14·88	25·43	−10·55	1·69	Chitaldroog.	Mysore.	36
4	6	30	77	22	28	98	82	13	9·6	8·3	5·2	+60	77	·595	4·8	48	61·68	−13·68	31·42	35·86	− 4·44	3·03	Bangalore.		
9	5	34	63	52	10	42	91	58	3·8	3·3			74	·579	5·7	72			42·61	30·47	+12·14	3·66	Hassan.		
2	11	49	44	19	15	114	95	16	9·3	10·1			75	·616	6·5	48			26·11	29·04	−2·93	1·83	Mysore.		
47	25	50	8	9	40	66	80	39	11·4*	11·4*	5·6	+104	76*	·843*	4·6	60	60·74	− 0·74	61·37	54·66	+ 6·71	5·37	Negapatam	Madras, East-Coast, South.	56
29	39	8	5	9	69	83	62	61	2·8	3·5			81	·864	4·0	61	56·80	+4·20	49·49	47·34	+ 2·15	4·64	Cuddalore.		
155	24	25	6	8	1	26	107	13	5·3		5·8	− 9	75	·778	4·3	39	45·45	− 6·45	32·42	32·69	− 0·27	2·15	Trichinopoly.		
2	61	22	5	17	86	73	76	23	6·7		7·1	− 6	76	·820	5·1	51	60·53	− 9·53	23·93	43·02	−20·09	3·20	Madras.		
21	1	3	1	55	62	10	96	116	6·7				75	·816	5·6	44	44·30	− 0·30	28·34	35·63	− 7·29	3·82	Nellore	Madras, East-Coast, Central.	55
37	58	40	5	32	56	24	60	53	8·0		7·0	+ 14	80	·857	5·4	46	55·24	− 9·24	31·97	43·52	−11·55	3·55	Masulipatam.		
	7	51	52	72	6	53	82	42					66	·736	4·0	40	46·00	− 6·00	21·43	35·18	−12·75	3·24	Cuddapah	Madras, Central.	54
170	10		17	13	12	11	105	27					64	·606	4·1	48	48·93	− 0·93	24·63	30·06	− 5·43	2·26	Kurnool.		
59	6	6	25	59	13	19	104	74	7·3	7·8	6·5	+ 20	52	·513	5·7	33	35·00	− 2·00	17·63	19·73	− 2·10	1·91	Bellary.		
48	40	58	5	12	43	81	56	24	8·5	7·8			76	·797	5·1	40	55·10	−15·10	23·32	44·54	−21·22	3·08	Cocanada	Madras, East Coast, North.	52
30	8	67	12	3	3	162	49	31	11·3				74	·767	4·9	41	64·36	−23·36	28·85	46·47	−17·62	4·95	Waltair (Vizag.).		
20	51		7	2	28	130	16	81	14·0	13·7	9·6	+ 43	86	·851	1·7	56	61·35	− 5·35	43·40	49·39	− 5·99	6·32	Gopalpur.		
...	...	...	...	...	...	...	...	...	...			...	...	...	..	...	...	...	...	...	...	...	XII.—Hill Stations.		
94	10	5	2	36	5	92	7	114	4·7				41*	·307*	2·0	23			11·06	14·60	− 3·54	1·50	Shahrig	Baluchistan.	48
																27			10·13	10·61	− 0·48	1·12	Pishin.		
326		2	2	7	12	8	6	2	1·6	1·7	4·1	− 59	65	·312	2·6	40	22·45	+17·55	14·90	10·89	+ 4·01	1·38	Quetta.		
	49		33		230		50						55	·250		25			10·14	9·05	+ 1·09	1·04	Kalat.		
	19	10	71	92	59	80	16	18	6·2	6·6			75	·513	2·1	25			12·34	7·43	+ 4·91	1·00	Chaman.		
	8	94	69	24	67	64	36	3	2·3				53	·140	5·0	16			4·65	3·04	+ 1·61	0·42	Leh	Punjab.	30
176	14	10	22	67	34	4	12	26	3·2	3·4			89	·370	4·8	68			37·24	35·24	+ 2·00	2·18	Srinagar		
218	11	24	13	1	11	35	42	10	4·9	5·9			69	·255	5·2	21			6·64	13·32	− 6·68	0·91	Skardu.		
294	2	4	6	3	5	24	20	7	3·8	3·9			72	·165	4·3	58			22·12	24·25	− 2·13	1·30	Dras.		
308		2	1	1		18	31	1	1·9	1·9			46	·253	5·7	10			2·79	4·08	− 1·29	0·55	Gilgit.		
248	43	6	1	4	13	13	17	5	3·6	3·5			65	·312		36			14·81			2·26	Chitral.‖		
119	38	9	108	9	30	14	34	2					65	·318	4·2	50§			21·06§			2·41	Killa Drosh.		
	85	54	35	20	12	31	56	71	3·6				57	·284	4·9	73			27·38			1·36	Para Chinar.		
11	168	16	1	7	86	4	10	62	11·6	10·7			58	·337	3·9	53			31·80	26·16	+ 5·64	4·65	Cherat.		
145	30	8	17	101	41	6	2	15	5·5	6·8	6·8	0	57	·277	3·5	91	67·56	+23·44	68·00	56·29	+11·71	3·30	Murree		
															4·5	43			19·94	18·56	+ 1·38	1·53	Poo.		
102	57	57	26	25	63	18	2	6	4·3		2·2	+ 95	58	·258	4·7	100	84·52	+15·48	59·32	64·19	− 4·87	2·77	Simla.		
84	105	42	11	29	23	17	2	48	9·3		5·1	+ 82	64	·283	3·1	121			83·21	67·76	+15·45	3·59	Chakrata,	North-Western Provinces.	45
51	30	34	97	44	16	3	27	63					64	·302	4·3	107	79·73	+27·27	97·25	97·95	− 0·70	3·95	Mussooree.		
177	12	33	27	10	10	35	31	230	2·7	3·1	2·1	+ 48	65	·334	4·2	83	77·29	+ 5·71	45·46	54·44	− 8·98	1·96	Ranikhet.		
33	8	16	30	123	15	18	8	114	6·5	6·0			65	·291	4·6	99			46·39			1·32	Muktesar.		
																130			53·69			2·56	Yatung	Bengal,	13
128	3	49	72	49	6	26	25	6	4·9	4·5	3·4	+ 32	84	·348	4·8	112	125·43	−13·43	108·42	121·69	−13·27	7·39	Darjeeling.		
325		6	2						2·8†	3·3†			79	·404	3·7	133			115·29	143·89	−28·60	5·20	Gantok.¶		

‖ Wind observations of 350 days. § Rainfall from 1st February to 31st December. ¶ Wind observations of 333 days.

Table

Abstract of observations taken at 8 A.M.

Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
			Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to corrected gravity at 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
Central India	Mount Abu	3,945	26·025	−·005		26·288	25·696	·592	·220	68·0	76·4	+0·2	63·1	+1·2	69·8	+0·7	13·4	100·2	37·0	63·2	26·2
	Pachmarhi	3,528	26·433	+·003		26·685	26·038	·647	·238	70·6	81·6	+2·5	62·7	+1·7	72·1	+2·1	18·8	101·2	36·3	64·9	31·8
South India.	Wellington	6,200	24·269	+·010		24·394	24·101	·293	·122	62·8	73·0	+2·4	53·8	+0·2	63·4	+1·3	19·2	82·7	33·7	49·0	30·2
	Kodai Kanal	7,683	22·851			22·968	22·692	·276	·119	58·0	65·1		51·4		58·3		13·6	76·0	42·2	33·8	22·9
XIII.—Extra India.																					
Ceylon	Trincomalee	12	29·913	+·017	29·851	30·058	29·696	·362	·139	81·3	89·0	P	77·3	+1·3	83·2	P	11·7	96·5	70·0	26·5	18·8
	Colombo	40	29·915	+·067	29·881	30·018	29·791	·227	·132	81·0	89·1	+2·4	75·8	+0·4	82·4	+1·4	13·3	95·5	68·5	27·0	19·5
Persia	Meshed	3,104								55·5			46·9							3·0	
	Teheran		25·975			26·500	25·550	·950	·424	60·1	72·4		45·3		58·9		27·2	103·7	12·0	91·7	47·4
	Ispahan		24·326			24·700	23·975	·725	·352	57·9	74·9		46·9		61·0		28·0	104·0	13·3	90·7	45·6
	Bushire	14	29·875	+·017	29·848	30·411	29·431	·980	·287	74·5	82·1	−0·4	69·4	+1·1	75·8	+0·4	12·7	102·5	45·3	58·2	29·4
	Jask		29·838	−·009		30·288	29·343	·945	·284	78·9	86·7	+0·2	73·8	+0·5	80·2	+0·3	12·9	104·2	45·3	58·9	25·0
	Muscat	20	29·869		29·837	30·305	29·385	·920	·273	81·2	83·5		78·8		81·3		4·7	101·8	62·3	42·5	15·6
Arabia	Baghdad	220	29·788	0	29·988	30·378	29·357	1·021	·376	67·8	86·1	+0·4	60·4	+1·5	73·3	+1·0	25·7	114·4	32·5	81·9	42·9
	Bussrah		29·913			30·442	29·422	1·020	·340		84·4*		71·0*		80·1*		18·1*	112·9	39·5	73·4	26·2*
	Aden	94	29·835	+·004	29·861	30·114	29·521	·593	·185	81·8	87·8	−1·0	78·6	+1·2	83·2	+0·1	9·2	99·3	66·9	32·4	17·8
	Perim	201	29·710		29·844	29·972	29·463	·509	·188	83·4	89·6		79·7		84·7		9·9	102·2	69·0	33·2	17·8
Afghanistan	Kabul									51·7	74·0		42·3		58·6		30·7	99·1	2·4	96·7	52·3
Central Asia	Kashgar		25·633			26·050	25·242	·808	·482	48·3	64·5		41·4		53·0		23·2	102·2	−7·7	109·9	47·5
Arabian Sea Islands.	Amini Devi	13	29·942		29·883	30·076	29·668	·408	·162												
	Minicoy	7	29·933		29·865	30·050	29·782	·268	·127	82·6	86·9							92·9			
Africa	Zanzibar	73	30·002	+·009	30·002	30·152	29·863	·289	·144	78·9	84·1		76·7		80·4		7·4	90·9	71·6	19·3	13·1
	Do. Dunga*									77·0	91·4		68·6		80·0		22·9	99·3	61·1	38·2	32·2

* Mean of 10 months.

Note.—When a query is inserted against any reading or in the variation returns forany

I—*concld.*

at 218 stations in India, Burma, etc., in the year 1900—concld.

Wind direction. Number of winds from									Wind velocity.				Hygrometry 8 A.M.		Mean cloud amount of year.	Rainfall.						Heaviest rainfall during year.	Station.	Meteorological Province or District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer (uncorrected).	Mean velocity corrected (where possible.)	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.		Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.			
59	29	64	5	23	16	115	46	28	8·4	8·7	7·0	+ 24	53	·369	3·3	45	53·19	− 8·19	49·79	66·87	−17·08	7·86	Central India.	Mount Abu
137	23	19	11	12	5	22	53	83	7·6	7·8	5·2	+ 50	63	·477	4·5	87	80·37	+6·63	91·46	78·23	+13·23	5·71		Pachmarhi.
209	31	21	9	12	11	43	17	10	3·3		3·3	0	68	·390	4·6	94	88·33	+ 5·67	42·69	52·98	−10·29	2·22	South India.	Wellington
7	25	58	44	78	6	13	12	122	10·3				67	318	4·8	109			59·31			2·66		Kodai Kanal.
																							XIII.—Extra India.	
94		47		2		213	1	7	8·1				84	·901	2·6	81			59·06	75·24	−16·18	6·15	Trincomalee.	Ceylon.
1	28	51	61	54	22	95	49	4	8·0		7·6	+5	84	·892	4·4	111			83·05	90·04	−6·99	5·39	Colombo.	
													68	·342	3·0†	20			7·03	3·12	−0·19	0·80	Meshed	Persia
13	36	98	11	14	32	57	20	19	1·8	2·3			46†	·255†	2·3	26			7·90	9·76	−1·86	0·87	Teheran.‡	
									2·6	3·3			69	·358	2·1	5			1·71	4·69	−2·98	0·63	Ispahan.	
24	49	83	33	62	12	5	10	86	7·8	9·3			68	·604	2·3	24			15 32	12·17	+3·15	2·61	Bushire.	
46	45	38	123	35	3	6	16	43	11·6	13·4			72	·742	1·8	13			7·13	4·45	+2·68	1·40	Jask. §	
123	16	9	12	63	6	12	18	106	4·5	4·7			66	·717	2·9	17			7·91	6·14	+1·77	1·44	Muscat	
125	99	16	6	12	16	6	19	66	2·5	3·4			62	·416	2·4	16			5·78	10·62	−4·84	1·04	Baghdad	Arabia.
3	181	4	3	2	61	2	5	21								13			5·05			0·87	Bussrah.‖	
24	3	122	120	28	17	41	4	4	14·4		11·5	+25	73	·799	4·4	2			1·50	3·79	−2·29	1·20	Aden.	
13	4	30	109	93	26	46	31	12	18·7	17·4			77*	·894	3·2	13			5·91	1·71	+4·20	0·90	Perim.	
152	32	30	14	2	5	28	55	44					59*	·286*	2·2	24			9·63	11·44	−1·81	2·11	Kabul	Afghanistan.
180	22	18	25	21	30	11	33	17							4·9	16			3·79	4·41	−0·62	0·50	Kashgar ¶	Central Asia.
6	116	14	12	9	1	29	76	100							4·7	85			42·07			2·51	Amini Devi	Arabian Sea Island.
1	88	61	13	11	8	17	87	79	7·8	8·4			78	·860	3·9	98			69·76			4·17	Minicoy.	
4	30	33	15	57	126	77	19	4	6·2	5·9			84	·829	6·8	101			76·74	55·30	+21·44	5·73	Zanzibar	Africa
11	14	1	21	75	97	50	5	4					83	·821		92			55·60			3·25	Do. Dunga.**	

† Mean of 11 months.

station, the data for that station are not utilized in calculating the provincial variations.

‡ Wind observations of 300 days.
§ Do. 355 ,,
‖ Do. 332 ,,
¶ Do. 357 ,,
** Do. 278 ,,

TABLE II.—Abstract of Observations taken at 10 A.M. and 4 P.M., at 66 Stations in India, Burma, etc., in the year 1900.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

Meteorological Provinces.	Station.	Elevation of bar-cistern above sea level in feet.	Pressure.						Temperature of Air.								
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean daily pressure.	Variation from normal.	Mean, reduced to M.S.L. and for gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.
Burma Coast and Bay Islands.	Port Blair		29·881	29·784	·097	29 830	+·021	29·821	88·2	78·1	10·1	96·6	70·0	26·6	84·9	86·2	82·1	+1·5
	Rangoon		·887	·766	·121	·829	0	·807	90·2	73·2	17·0	105·0	59·5	45·5	82·8	85·7	79·7	+0·9
	Diamond Island		·891	·792	·102	·840	+·005	·816	85·7	74·8	7·9	91·8	67·2	24·6	83·0	83·3	80·7	+1·8
	Cocos Island	111	·834	·745	089	·787	?	·830	86·9	77·7	9·2	96·2	72·8	23·4	83·8	83·8	81·0	+1·7
	Akyab		·889	·781	·108	·835	?	·798	87·7	?	?	99·0	?	?	81·4	83·9	?	?
Bengal and Orissa	Chittagong		·815	·709	·106	·762	+·005	·797	86·8	70·1	16·7	96·7	49·1	47·6	81·5	83·4	77·7	+1·4
	Calcutta (Alipore)		·857	·742	·115	·797	+·013	·763	88·6	71·0	17·0	103·6	50·8	52·8	82·5	86·0	79·5	+1·6
	Saugor Island		·847	·740	·107	·791	+·009	·760	86·7	74·1	12·3	100·9	55·1	45 8	82·4	83·8	79·3	+1·0
	False Point		·852	·746	·106	·799	−·005	·761	86·1	73·1	13·0	103·1	55·8	47·3	83·5	83·9	78 8	+1·1
Gangetic Plain and Chota Nagpur.	Hazaribagh		27·857	27·754	·103	27·806	+·011	·752	85·3*	67·1	17·9	107·0	46·3	60·1	78·1*	82·0*	75·1*	+0·8
	Darbhanga		29·704	29·582	·122	29·641	+·008	·761	86·0	68·8	17·2	103·1	45·8	57·3	79·9	84·4	76·6	0
	Allahabad		·544	·428	·116	·431	+·003	·744	90 1	68·2	21·9	113·1	39·1	74·0	82·6	88·3	78·3	+0·5
Upper Sub-Himalayas.	Dehra Dun		27·633	27·547	·086	27·581	+·009	·777	81·1	61·0	20·1	104·6	37·8	66·8	73·1	77·0	69·8	−0·3
	Roorkee		28·957	28·855	·102	28·898	+·014	·755	86·4	63·3	23·1	112·7	34·6	78·1	77·7	83·7	73·9	−0·2
	Meerut		29·100	·996	·104	29·041	?	·746	88·1	65·2	22·9	110·8	38·2	72·6	78 3	81·5	75·6	+0·6
	Lahore		·138	29·046	·092	·084	+·011	·758	87·1	65·3	21·8	115·6	35·2	80·4	77·8	86·2	75·5	+1·8
	Lahore (Newshed)								89·3	64·2	25·1	118 4	34·0	84·4	79·5	87·0	75·7	
	Ludhiana		·022	28·930	·092	2o·969	?	·752	86·7	65·6	21·1	115·2	36·4	78·8	77·8	84·4	75·2	+1·2
Indus Valley and N.-W. Rajputana.	Peshawar		28·763	·665	·098	·707	+·015	·807	84·9	60·5	2.·4	118·0	30·9	87 1	76·3	82·0	71·5	+0·6
	Jacobabad		29·659	29·535	·124	29·589	+·007	·732	97·6	67·4	30·2	124·7	34·0	90·7	85·7	95·3	81·4	+2·4
	Kurrachee		·838	·771	·097	·813	+·014	·798	89·5	71·2	18·3	112·5	40·2	72·3	83·4	85 2	79·0	+1·7
Eastern Rajputana, Central India and Gujarat.	Jaipur		28·445	28·341	·104	28·387	+·011	·768	90·8	67·5	23·3	113·4	32·8	80·6	82·1	88·2	78·0	+1·8
	Udaipur		27·904	27·859	·105	27·912		·775	88·2	66·1	22·1	112·1	40·2	71·9	81·0	85·9	76·6	
	Deesa		29·420	29·299	·121	29·355	+·007	·771	91·5	69·0	25·5	117·9	41 0	76·9	84·8	92·3	81·4	+1·6
	Jamnagar		·842	·736	·106	·783		·795	90·3	68·8	21·5	107·2	43·3	63·9	84·1	87·6	78·9	
Deccan	Belgaum		27·388	27·283	·105	27·335	+·007	·766	85·3	64·8	21·5	101·8	49·9	51·9	79·5	82·5	74·2	+1·5
	Sholapur		28·317	28·179	·138	28·250	+·002	·757	95·2	70·1	25·1	110·2	55·7	54·5	85·6	92·4	81·6	+2·4
	Poona		·076	27·966	·110	·023	+·011	·780	91·8	65·2	26·6	107·9	48·1	59·8	82·6	89·0	77·7	+1·8
	Akola		·9:7	28·820	·137	·885	+·005	·756	95·4	68·6	26·8	114·4	46·0	68·4	86·2	93·4	81·6	+2·3
	Buldana	2,132	27·771	27·654	·117	27·709	+·006	·751	90·1	69·3	20·8	107·6	51·7	55·9	81 8	87·9	79 3	+2·2
	Khandwa		28·840	28·709	·131	28·771	+·007	·759	93·9	68·7	25·2	112·2	38·2	74·0	84·4	92·3	80·7	+2·5
	Nagpur		·845	·711	·134	·775	+·008	·742	94·6	70·8	23·8	114·2	52·4	61·8	84·7	91·3	82·0	+2·4
	Nagpur (Sanitary Commr.'s Office.)		·834	·733	·151	·796		·753	55·5	70·7	24·8	111·9	55·1	58·8	86·1	92·5	8·.4	
	Hyderabad (Deccan)		·214	·093	·121	·153	+·007	·762	92·1	71·0	21·1	110·1	55·5	54·6	83·9	89·3	80·9	+2·3
West Coast	Bombay		29·892	29·792	·100	29·838	+·014	·815	86·3	75·5	10·8	93·1	61·0	32·4	81·4	83·3	80·1	+0·6
	Karwar		·911	·811	·100	·856	+·024	·832	86·5	73·1	13·4	94·2	59·4	34·8	81·9	84 3	79·2	+0·5
South India	Periyakulam		28·393	28·862	·131	28·925			93·2	70·6	22·6	103·9	52·0	51·9	84·4	88·7	87·8	
	Salem		29·013	·872	·141	·951	+·001	2 9·816	95·0*	72·6	22·4	108·1	55·4	52·7	85·2	90·7	81·9*	+2·0
	Chitaldroog		27·526	27·420	·116	27·480	+·007	·784	89·3	68·9	20·4	102·1	56·9	45·2	80·9	86·4	78·4	+2·6
	Bangalore		29·963	26·850	·113	26·912	+·009	·793	86·1	65·6	20·5	100·1	52·0	48·1	87·7	83·3	75·2	+2·2
	Hassan		·903	·801	·102	·857	+·012	·810	84·8	63·1	21·7	97·3	46·0	51·3	78·0	81·1	73·1	+1·6
	Mysore		27·455	27·336	·119	27·396	+·011	·803	87 8	66·9	20·9	100·1	53·3	46·8	79·4	84·9	76 6	+1·5

*Mean of 11 months.

II.

at 66 Stations in India, Burma, etc., in the year 1900.

Temperature, Wet-bulb.				Vapour Tension.					Humidity.					Cloud.				Rainfall.		Station.	Meteorological Province.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Total rainfall for the month.	Heaviest rainfall during the month.		
75·4	79·4	79·6	78·2	·850	·938	·927	·905	+·023	88	78	74	80	−1	5·6	6·2	5·9	+0·4			Port Blair.	Burma Coast and Bay Islands.
71·4	76·2	76·2	74·6	·758	·826	·771	·785	+·006	92	74	63	76	−1	4·7	5·2	5·0	−0·4			Rangoon.	
73·6	77·4	77·1	76·1	·778	·870	·851	·833	+·028	82	77	75	78	−1	4·8	5·0	4·9	+0·3			Diamond Island.	
?	77·5	77·2	?	?	·864	·854	?	?	?	75	74	?	?	4·9	5·1	5·0	0	92·44	7·63	Cocos Island.	
?	75·7	76·6	?	?	·829	·829	?	?	?	76	71	?	?	4·8	4·9	4·9	+0·3			Akyab.	
69·0	75·0	75·3	73·1	·716	·795	·780	·763	+·013	94	73	68	78	−1	5·0	5·0	5·0	+0·4			Chittagong .	Bengal and Orissa.
69·7	74·9	75·4	73·3	·727	·784	·766	·756	+·020	91	69	60	73	−3	4·6	4·7	4·7	+0·4			Calcutta (Alipore).	
71·9	76·7	76·7	75·1	·774	·860	·840	·825	+·005	88	76	72	79	−1	5·2	5·0	5·1	+0·2			Saugor Island.	
72·2	77·6	77·6	75·8	·796	·877	·874	·849	+·054	94	76	75	81	+1	5·7	5·4	5·6	+0·8			False Point.	
62·1*	66·5*	67·3*	65·3*	·521*	·522*	·504*	·516*	?	74*	52*	49*	59*	?	5·5	6·0	5·8	+1·1			Hazaribagh .	Gangetic Plain and Chota Nagpur.
66·2	71·9	72·7	70·3	·647	·703	·675	·675	+·004	87	67	57	71	0	3·0	2·6	2·8	0			Darbhanga.	
63·3	70·2	71·3	68·3	·557	·605	·564	·575	+·003	77	55	44	59	−2	4·0	4·0	4·0	+0·7			Allahabad.	
56·5	62·8	63·7	61·0	·436	·472	·453	·454	−·012	73	57	49	60	−2	4·1	4·9	4·5	+0·6			Dehra Dun .	Upper Sub-Himalayas.
58·3	65·8	67·1	63·7	·465	·510	·471	·482	−·014	74	53	42	57	−2	3·5	3·6	3·6	+0·5			Roorkee.	
60·3	67·1	68·9	65·4	·505	·554	·534	·531	+·018	76	55	45	59	+1	4·4	4·3	4·4	+1·4			Meerut.	
59·4	66·2	68·2	64·8	·482	·531	·508	·507	+·022	71	54	41	56	+4	3·0	2·9	3·0	+0·3			Lahore.	
59·2	66·8	69·0	65·0	·488	·529	·502	·506		75	52	40	56								Lahore (Newshed)	
60·9	65·3	67·0	64·4	·520	·497	·465	·494	−·012	77	52	40	57	−2	3·5	3·9	3·7	+0·2			Ludhiana.	
55·1	63·6	65·2	61·3	·416	·480	·459	·452	+·027	72	51	42	55	+2	3·5	4·3	3·9	+0·7			Peshawar .	Indus Valley and N.-W. Rajputana.
59·3	69·0	72·6	67·0	·457	·538	·544	·513	+·054	61	41	31	44	+1	1·8	2·2	2·0	+0·1			Jacobabad.	
65·3	71·8	73·8	70·3	·598	·666	·715	·659	−·010	70	55	57	61	−6	2·3	2·2	2·3	−0·8			Kurrachee.	
59·4	66·8	68·0	64·8	·451	·498	·460	·470	+·006	62	44	35	47	−3	3·4	3·9	3·7	+0·2			Jaipur . .	Eastern Rajputana, Central India and Gujarat.
59·8	66·2	68·0	64·7	·474	·491	·489	·485		69	45	39	51		2·6	3·0	2·8				Udaipur.	
61·2	68·1	68·7	66·0	·480	·494	·402	·459	−·022	61	41	27	43	−3	2·9	2·6	2·8	−0·7			Deesa.	
?	70·1	70·2	?	?	·580	·548	?		?	47	41	?		1·8	1·6	1·7				Jamnagar.	
61·7	65·9	67·6	65·0	·519	·475	·497	·497	−·023	83	50	43	60	−4	4·1	4·5	4·3	−0·4			Belgaum . .	Deccan.
61·4	67·2	68·6	65·7	·456	·445	·409	·436	−·051	80	38	29	42	−9	3·7	5·3	4·5	−0·3			Sholapur.	
61·0	66·0	67·5	63·8	·507	·444	·412	·454	−·030	78	41	34	51	−2	3·6	4·2	3·9	−0·5			Poona.	
61·7	69·6	71·4	67·6	·491	·514	·483	·496	+·004	66	43	34	48	−3	3·4	4·0	3·7	−0·1			Akola.	
59·6	64·8	65·8	63·4	·410	·416	·370	·410	−·066	57	40	31	43	−9	3·6	4·3	4·0	−0·1	25·63	2·17	Buldana.	
60·2	68·3	69·9	66·1	·451	·502	·460	·471	−·026	61	44	34	46	−6	3·1	4·0	3·6	+0·1			Khandwa.	
62·3	69·2	70·9	67·5	·482	·536	·510	·509	−·019	63	48	38	50	−4	4·3	5·7	5·0	+0·6			Nagpur.	
62·5	69·6	71·4	67·8	·487	·533	·517	·512		64	45	38	49		3·2	4·7	4·0				Nagpur (Sany. Commr.'s Office).	
65·6	70·1	70·7	68·8	·572	·572	·525	·556	−·022	76	51	41	56	−6	3·8	4·8	4·3	+0·4			Hyderabad (Deccan).	
70·2	74·5	75·9	73·5	·684	·776	·805	·755	−·020	76	71	70	72	−4	3·7	3·8	3·8	−0·5			Bombay . .	West Coast.
70·7	74·4	75·8	73·7	·729	·757	·783	·756	−·004	89	70	67	75	−2	3·2	3·7	3·5	−0·2			Karwar.	
66·9	73·5	73·3	71·5	·652	·677	·624	·651		86	58	49	64		3·8	5·7	4·8				Periyakulam .	South India.
70·0	74·7	75·2	73·3	·704	·726	·678	·703	+·014	88	60	48	65	−2	4·1	5·5	4·8	+0·3			Salem.	
63·4	68·9	69·1	67·2	·526	·562	·500	·530	+·024	74	54	42	57	−1	4·7	5·3	5·0	0			Chitaldroog.	
62·5	67·4	67·4	65·8	·538	·557	·493	·530	−·004	85	59	46	63	−3	4·4	4·8	4·6	−0·1			Bangalore.	
61·4	66·8	66·6	64·9	·533	·531	·487	·517	−·010	91	57	49	66	−3	5·5	6·5	6·0	0			Hassan.	
64·4	68·9	68·9	67·4	·581	·584	·515	·560	+·015	87	58	46	64	−1	6·4	6·8	6·6	+1·1			Mysore.	

* Mean of 11 months.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

Meteorological Province.	Station.	Elevation of Bar-Cistern above sea level in feet.	Pressure.						Temperature of air.									
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean daily pressure.	Variation from normal.	Mean reduced to 32° F. and to gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.
South India—concld.	Madras		29·904	29·787	·117	29·849	+·010	·800	91·8	75·4	16·4	109·8	62·2	47·6	57·0	86·7	82·4	+0·6
	Bellary		28·446	28·311	·135	28·381	+·001	29·777	94·7	72·5	22·2	107·8	55·1	52·7	85·2	91·5	81·6	+1·9
	Waltair		29·658	29·550	·108	29·604		·770	87·6	76·1	11·5	101·5	66·3	35·2	81·2	83·9	80·9	
Hill Station, Baluchistan.	Quetta		24·619	24·572	·077	24·603	+·020		73·3	45·5	27·8	100·2	3·2	97·0	65·1	69·9	58·5	+0·4
Hill Stations, Northern India.	Leh		19·723	19·634	·089	19·684	+·020		51·2	29·7	24·5	82·2	−6·0	88·2	45·0	50·9	41·4	+0·2
	Srinagar		24·914	24·828	·086	24·864	+·015		65·6	45·1	20·5	91·3	14·1	77·2	55·3	63·6	54·8	+0·5
	Kailang	10,087	20·963	20·887	·076	20·932	?		55·0	32·4	22·6	79·5	3·5	76·1	45·8	48·9	41·2	+0·3
	Simla (Ridge)		23·139	23·087	·052	23·105	+·026		60·7	49·5	11·2	83·2	22·2	61·0	56·5	57·7	54·3	−1·2
	Chakrata		·315	·260	·055	·280	+·027		62·9	49·6	13·3	81·3	26·3	54·5	57·7	58·0	54·7	−1·1
	Ranikhet		24·124	24·053	·071	24·077	+·024		67·3	53·5	13·8	86·0	30·0	56·0	62·2	63·6	59·4	−0·4
	Muktesar		22·874	22·813	·061	22·844			63·8	48·2	15·6	82·0	25·4	56·6	58·1	59·3	54·9	
	Katmandu	4,388	25·571	25·473	·098	25·521	?		77·8	53·8	24·0	92·4	27·2	65·2	67·7	72·6	61·5	−0·3
	Darjeeling		23·033	22·965	·068	22·997	+·044		59·5	47·5†	12·0	79·8	31·0	48·8	54·5	56·9	53·0†	?
Hill Stations, Central India.	Mount Abu		26·046	25·973	·073	26·005	−·007		76·4	63·1	13·3	100·2	37·0	63·2	71·7	74·3	69·2	+1·0
	Pachmarhi		·450	26·359	·091	·402	+·005		81·5	62·6	18·9	99·7	36·5	63·2	75·7	79·6	71·7	+2·1
	Chikalda	3,642	·338	·243	·095	·287	+·003		81·7	65·9	15·8	99·6	43·5	51·1	75·3	80·0	73·5	+2·2
Hill Station, South India.	Wellington		24·279	24·209	·070	24·244	+·020		73·0	53·9	19·1	82·6	33·8	48·8	68·3	68·1	62·2	+1·1
	Kodaikanal		22·867	22·800	·067	22·830			65·0	51·5	13·5	76·0	42·2	33·8	61·6	59·4	56·5	
Extra India	Aden		29·818	29·733	·115	29·786	+·012	·811	87·7	78·6	9·1	99·3	66·9	32·4	84·4	86·2	83·0	+0·8
	Perim		·718	·613	·105	·662	+·025	·794	89·6	79·7	9·9	101·9	69·0	32·9	86·3	86·7	84·0	+0·1
	Minicoy		·940	·859	·081	·897		·829	86·9			92·9			84·6	84·5		
	Zanzibar		30·015	·903	·112	·959	+·016	·958	84·1	76·7	7·4	91·2	71·6	19·6	80·4	83·4	80·3	+0·7
	Port Victoria (Seychelles).	15	29·998	·911	·087	·955	+·010	·894	83·1	75·6	7·5	88·2	70·7	17·5	81·9	82·6	79·2	−0·1
	Mauritius (Pamplemousses).	181				·909	+·010	30·038				93·5	47·6	45·9			74·0	+0·1

II—*concld.*

at 66 Stations in India, Burma, etc., in the year 1900—concld.

Temperature, Wet-bulb.				Vapour Tension.					Humidity.					Cloud.				Rainfall.		Station.	Meteorological Province.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Total rainfall for the year.	Heaviest rainfall during the year.		
	76·9	77·5	76·3		·794	·829	·829	+·045		63	66	75	+2	5·3	4·8	5·1	+0·1			Madras	South India—concld.
64·4	68·3	69·8	67·5	·513	·488	·463	·488	−·056	69	41	32	46	−6	5·8	6·8	6·3	+1·3			Bellary.	
70·5	75·2	76·1	74·0	·682	·763	·808	·751		75	65	69	70		4·7	4·9	4·8				Waltair.	
40·1*	51·4	52·7	47·7*	·222*	·267	·244	·244*	?	71*	45	38	52*	+1	2·5	3·5	3·0	+0·9			Quetta	Hill Station, Baluchistan.
25·7	34·4	36·3	32·8	·125	·141	·160	·142	+·007	65	38	38	47	−3	4·6	6·1	5·4	0			Leh	Hill Stations, Northern India.
43·8	53·1	59·9	52·3	·308	·435	·537	·426	+·065	90	86	82	86	+9	4·6	5·2	4·9	+0·4			Srinagar.	
30·9	38·7	39·7	36·4	·182	·205	·193	·193	+·013	87	59	53	66	+4	5·5	7·0	6·3	+0·7	32·76	2·67	Kailang.	
43·9	43·2	49·7	47·3	·251	·275	·297	·274	−·014	66	56	60	61	+1	5·1	6·4	5·8	+0·7			Simla (Ridge).	
44·8	49·8	50·2	48·3	·274	·299	·305	·293	−·009	73	60	61	65	+1	4·3	5·1	4·7	+0·2			Chakrata.	
43·7	53·6	54·1	52·1	·314	·344	·345	·334	−·010	72	59	57	63	−2	4·6	5·0	4·8	+0·4			Ranikhet.	
43·9	50·6	51·5	48·7	·264	·312	·324	·300		72	61	61	65		5·0	5·7	5·4				Muktesar.	
52·4	60·3	62·1	58·2	·413	·467	·462	·446	−·002	90	66	56	71	−1	3·9	5·0	4·5	−0·1	52·26	3·25	Katmandu.	
45·7	51·4	53·5	50·2	·306†	·366	·393	·355†	?	88†	82	81	84†	?	5·5	6·3	5·9	−0·7			Darjeeling.	
54·2	58·9	60·2	57·8	·339	·371	·378	·363	−·003	57	48	45	50	−3	3·5	3·4	3·5	−0·2			Mount Abu	Hill Stations, Central India.
57·0	64·0	65·6	62·2	·424	·479	·489	·464	+·051	72	54	50	59	+1	4·4	5·1	4·8	+0·6			Pachmarhi	
58·1	62·8	64·7	61·9	·406	·438	·447	·431	−·002	64	52	47	54	−4	3·3	4·1	3·7	−0·6	77·01	7·89	Chikalda.	
51·1	58·9	59·7	56·6	·357	·399	·429	·395	+·003	81	58	63	67	−5	5·2	6·5	5·9	+0·1			Wellington	Hill Station, South India.
46·7	53·9	54·9	51·8	·282	·344	·391	·338		72	65	78	71		5·3	7·2	6·3				Kodaikanal.	
72·4	75·9	74·8	74·3	·717	·785	·715	·739	+·001	73	67	57	66	−1	3·8	2·4	3·1	+0·7			Aden	Extra India.
75·4	78·7	78·4	77·5	·829	·896	·877	·867	+·109	81	71	69	74	+9	2·0	1·2	1·6	−0·4			Perim.	
	77·9	77·7			·868	·848				73	73			3·9	4·3	4·1				Minicoy.	
72·8	75·9	75·9	74·9	·759	·839	·796	·798	+·035	82	81	70	78	−1	6·4	5·4	5·9	+1·1			Zanzibar.	
73·0	76·1	76·3	75·1	·783	·831	·827	·813	+·028	88	76	74	79	+2	5·6	5·5	5·6	−0·7	116·47	4·90	Port Victoria (Seychelles).	
							·622					75	0					31·28	2·63	Mauritius (Pamplemouses.)	

* Mean of 11 months.

† Mean of 10 months.

Corrigenda in India Monthly Weather Reviews for the year 1900.

TEXT.

Page.	Column.	Part.	Correction.
15	2	January 1900 .	*Omit* figures against Quetta, Lahore and Montgomery in the first figure column of the tabular statement.
26	2	Ditto „ .	*For* "1878 and 1889" *read* "1878 and 1880" against Peshawar in the last figure column of the second tabular statement.
27	1	Ditto „ .	*For* "Lowest minimum temperature recorded in January 1900" *read* "Lowest minimum temperature recorded in January previous to 1900" as heading of the third figure column of the first tabular statement.
141	2	March „ .	*For* "+106" *read* "+6" against Burma Coast and Bay Islands in figure column 4 of the tabular statement.
169	2	Ditto „ .	*For* "5·3" *read* "3·5" against Ranikhet in figure column 1 of the last tabular statement.
202	1	April „ .	*For* "was usually disturbed" *read* "was unusually disturbed" in the first line under "Barometric depressions, etc."
202	2	Ditto „ .	*For* "On these occurred" *read* "on these occasions," in the fourth line under "Barometric depressions, etc."
268	2	May „ .	*For* "11·12" and "—2·07°" *read* "11·29 and —1·88°," respectively, against Burma Coast and Bay Islands in figure columns 1 and 3 of the tabular statement.
269	2	Ditto „ .	*For* "more than 0·8" *read* "more than 0·08" in the first line.
296	1	Ditto „ .	*For* "—96" *read* +96 against Chakrata in figure column 3 of the third tabular statement.
302	1	Ditto „ .	*Insert* "1·0" after "less than" in line 2 of paragraph first.
363	2	June „ .	*For* "7·0" *read* "+7·0" against Sind in figure column 5 of the second tabular statement.
416	2	July „ .	*For* "14·53" and "+1·78" *read* "14·48 and +1·83," repectively, against Bengal and Orissa in figure columns 2 and 3 of the first tabular statement.
421	2	Ditto „ .	*For* "Lat. 2° 20′ N." "*read* "Lat. 21° 20′ N." in line 4 of the last paragraph.
492	2	August „ .	*For* "the anomaly equall 0·04" " *read* "the anomaly equalled 0·04" in line 8 of paragraph first.
495	2	Ditto „ .	*For* "Lat. 17° 10′ N. and Long. 88° 20′ E." *read* "Lat. 19° 15′ N. and Long. 87° 15′ E." in lines 10 and 11 of paragraph first.
497	1	Ditto „ .	*For* "Lat. 19° 30′ N. and Long. 86° 20′ E." *read* "Lat. 20° 0′ N. and Long. 86° 25 E." in lines 5 and 6 of paragraph first.
498	2	Ditto „ .	*For* "ainfall" *read* "rainfall" in line 5 of paragraph first below the first tabular statement.
500	1	Ditto „ .	*For* "Lat. 19° N. and Long. 87° 10′ E." *read* "Lat. 19° 15′ N. and Long. 87° 40′ E. in line 4 of paragraph first.
502	2	Ditto „ .	*For* "iall" *read* "fall" in line 1 of paragraph first.
508	1	Ditto „ .	*For* "Lat. 20° N. and Long. 91° E." *read* "Lat. 20° 30′ N. and Long. 89° 40′ E." in line 2 of paragraph first.
514	1	Ditto „ .	*For* "Lat. 24° N. and Long. 79° E." *read* "Lat. 26° N. and Long. 80° 40′ E." in line 2 of paragraph second.
611	1	September „ .	*For* "unusually for south" *read* "unusually far south" in line 3 of paragraph first.

Corrigenda in India Monthly Weather Reviews for the year 1900.—*contd.*

TEXT—*concld.*

Page.	Column.	Part.	Correction.
621	...	September 1900 .	*For* "+12·70" *read* "+10·70" against Central Provinces East in the last figure column of the tabular statement.
681	2	October „ .	*For* "west of the Arabian Sea" *read* "east of the Arabian Sea" in line 5 of paragraph first.
731	1	November „ .	*For* "29·86″ in the centre" *read* 29·80″ in the centre in line 6 of paragraph second under "Summary of the chief features, etc."
760	1	Ditto „ .	*For* "Sannu" *read* "Bannu" in line 7 of paragraph first below the tabular statement.
800	2	December „ .	*For* "The coolest days in the Punjab.....in Bihar the 29th" *read* "The coolest days in the Punjab were the 27th and 28th, in the North-Western Provinces the 29th and in Bihar the 30th" in line 1 of paragraph first below the first tabular statement.
810	2	Ditto „ .	*For* "+·5" *read* "+3·5" against Zanzibar in figure column 3 of the second tabular statement.
812	1	Ditto „ .	*For* "falls exceeding 2″" *read* "falls exceeding 1″" in line 7 of paragraph fifth.
814	1	Ditto „ .	*Insert* "and in the case of the last division six times" after four times in the first line.
816	2	Ditto „ .	*For* "All over the province" *read* "Over nearly the whole of the province," in line 1 of paragraph first below the second tabular statement.

N.B.—It should be noted that in the Monthly Weather Reviews the positions assigned to the storm centres over the sea are based on imperfect information, the correct positions being given in the Annual Summary on *Plate VI.*

Corrigenda in India Monthly Weather Reviews for the year 1900—*contd.*

TABLES I AND II.

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
61	January 1900	I	Jamnagar	Wind velocity	1 and 2	*For* "0·5" and "0·5" *read* 12·0 and 12·8, respectively.
65	Ditto ,,	I	Minimarg	Rainfall	4 and 7	*For* "6·10" *read* 6·15.
68	Ditto ,,	II	Dehra Dun	Temp., Wet-bulb	4	*For* "37·1" *read* 47·1.
69	Ditto ,,	II	Deesa	Humidity	2	*For* "2" *read* 20.
123	February,,	I	Jamnagar	Wind velocity	1 and 2	*For* "0·5" and "0·5" *read* 12·0 and 12·8, respectively.
133	Ditto ,,	II	Periyakulam	Ditto	1	*For* "64*" *read* 62*.
,,	Ditto ,,	II	Simla (Ridge)	Humidity	5	*For* "—1" *read* +1.
189	March ,,	I	Perim	Rainfall	4, 6, 7 and 9.	*For* "1·14," "+ 1·01," "1·14," and "+ 1·01" *read* 1·16, +1·03, 1·16 and +1·03, respectively.
190	Ditto ,,	II	Udaipur	Pressure	6	*For* "·838" *read* ·833.
249	April ,,	I	VII.—Indus Valley and North-West Rajputana.	Rainfall	5	*For* "·49" *read* 0·40.
257	Ditto ,,	II	Jacobabad	Humidity	5	*For* "—1" *read* +1.
313	May ,,	I	I.—Burma Coast and Bay Islands.	Rainfall	4 and 6	*For* "11·12" and "—2·07" *read* 11·29 and —1·88, respectively.
,,	Ditto ,,	I	Diamond Island	Ditto	4, 6, 7 and 9.	*For* "6·35," "— 2·20," "6·61" and "3·11" read 8·06 — 0·49, 8·32, and —1·40, respectively.
324	Ditto ,,	II	Diamond Island	Temperature of air	9	*For* "4·0" *read* 84·0.
,,	Ditto ,,	II	Jamnagar	Pressure.	1	*For* "·978" *read* ·798.
325	Ditto ,,	II	Sholapur	Vapour tension	3	*For* "·339" *read* ·331.
394	June ,,	I	Arrah	Pressure, 8 A.M., etc	8	*For* "·466" *read* ·566.
398	Ditto ,,	I	Bijapur	Temperature of air.	5	*For* "1*" *read* 0·1*.
402	Ditto ,,	I	Kabul	Ditto	1	*For* "73·7" *read* 74·4.
403	Ditto ,,	I	Yatung	Rainfall	1	*Insert* 17.
,,	Ditto ,,	I	Kashgar	Ditto	6 and 9	*For* "—0·37" *read* +0·37.
404	Ditto ,,	II	Buldana	Temperature Wet-bulb.	4	*For* "1·4" *read* 71·4.
406	Ditto ,,	II	Madras	Pressure	1 and 2	*For* "297·35" and "29·648" *read* 29·735 and 29·618, respe tively.
467	July ,,	I	IV.—Bengal and Orissa.	Rainfall	5 and 6	*For* "14 53" and +"1·78" *read* 14·48 and + 1·83, respectively.
469	Ditto ,,	I	Shortt's Island	Ditto	5 and 6	*For* "10·87" and "—0·47" *read* 9·37 and + 1·03, respectively.
471	Ditto ,,	I	Jamnagar	Wind velocity	1 and 2	*For* "1·0" and "1·0" *read* 23·0 and 24·7, respectively.
474	Ditto ,,	I	Muktesar	Temperature of air.	1	*Insert* 62·3.
476	Ditto ,,	I	Baghdad	Ditto	7	*Insert* —0·2.
477	Ditto ,,	I	Darjeeling	Heaviest rainfall during month.	1	*For* "3·65" *read* 4·19.
,,	Ditto ,,	I	Teheran	Rainfall	5, 6, 8 and 9.	*For* "0·51," "—0·51," "0·52" and "—0·50" *read* 0·81, —0·81, 0·82 and —0·80, respectively.
479	Ditto ,,	II	Saugor Island	Vapour tension	2	*For* "·017" *read* 1·017.
559	August ,,	I	Midnapore	Rainfall	4	*For* "135" *read* 12·75.
561	Ditto ,,	I	Puri	Wind direction	1	*Insert* 8.

Corrigenda in India Monthly Weather Reviews for the year 1900—*concld.*

TABLES I AND II—*concluded.*

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
561	August 1900	I	Puri	Rainfall	2 and 3	*Insert* 13·27 and +4·73, respectively.
562	Ditto "	I	Udaipur	Temperature of air	9 and 11	*For* "70·5" and "68·3" *read* 90·0 and 70·5, respectively.
565	Ditto "	I	Para Chinar	Ditto	13	*For* "38·6" *read* 33·6.
572	Ditto "	II	Port Victoria (Seychelles)	Ditto	4	*For* "82" *read* 82·3.
647	September "	I	Patiala	Wind direction	7	*Omit* "2".
"	Ditto "	I	Ludhiana	Rainfall	4, 6, 7 and 9.	*For* "11·33," "+6·95," "44·70" and "+20·64" *read* 11·34, 6·96, 44·71 and +20·65, respectively.
652	Ditto "	I	Baghdad	Temperature of air	7	*Insert* +2·3.
"	Ditto "	I	Busrah	Pressure, 8 A.M., etc.	6	*For* "29·504" *read* 29·584.
"	Ditto "	I	Amini Devi	Temperature of air	10	*Omit* "29th."
"	Ditto "	I	Minicoy	Ditto	10	*Insert* 29th.
656	Ditto "	II	Wellington	Pressure	3	*For* "24·072" *read* ·072.
657	Ditto "	II	Quetta	Vapour tension	2	*For* "·807" *read* ·307.
"	Ditto "	II	Kailang	Ditto	2	*For* "·838" *read* ·338.
"	Ditto "	II	Chikalda	Ditto	3	*For* "·599" *read* ·699.
714	October "	I	Midnapore	Pressure, 8 A.M., etc.	1	*For* "29·975" *read* 29·795.
717	Ditto "	I	Dehri	Rainfall	3	*For* "+0·27" *read* +0·23.
"	Ditto "	I	Muzuffarpur	Wind velocity	2	*Insert* 0·1.
723	Ditto "	I	Chitral	Wind direction	1	*Insert* 22.
724	Ditto "	I	Gangtok	Temperature of air	2	*For* "77·7" *read* 70·7.
"	Ditto "	I	Baghdad	Ditto	7	*Insert* +1·4.
726	Ditto "	II	Cocos Island	Pressure	1 and 3	*For* "·862", "·097" *read* ·864 and ·099, respectively.
727	Ditto "	II	Diamond Island	Vapour tension	2, 4 and 5	*For* "·964," "·905," and "+·038" *read* ·956, ·903 and +·036, respectively.
"	Ditto "	II	Cocos Island	Ditto	2	*For* "·913" *read* ·911.
776	November "	II	Zanzibar	Pressure	4	*For* "·897" *read* ·899.

EXPLANATION OF PLATES.

PLATE I.—A chart of India showing the 11 meteorological provinces and 57 districts of India.

PLATE II.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of January and February 1900. This chart and the three following charts have been prepared to illustrate the data given in Table XXVIII. These charts are drawn up in the same manner as the rainfall chart (Plate V) in the Monthly Weather Reviews of the year 1900.

PLATE III.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of March to May 1900.

PLATE IV.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of June to October 1900.

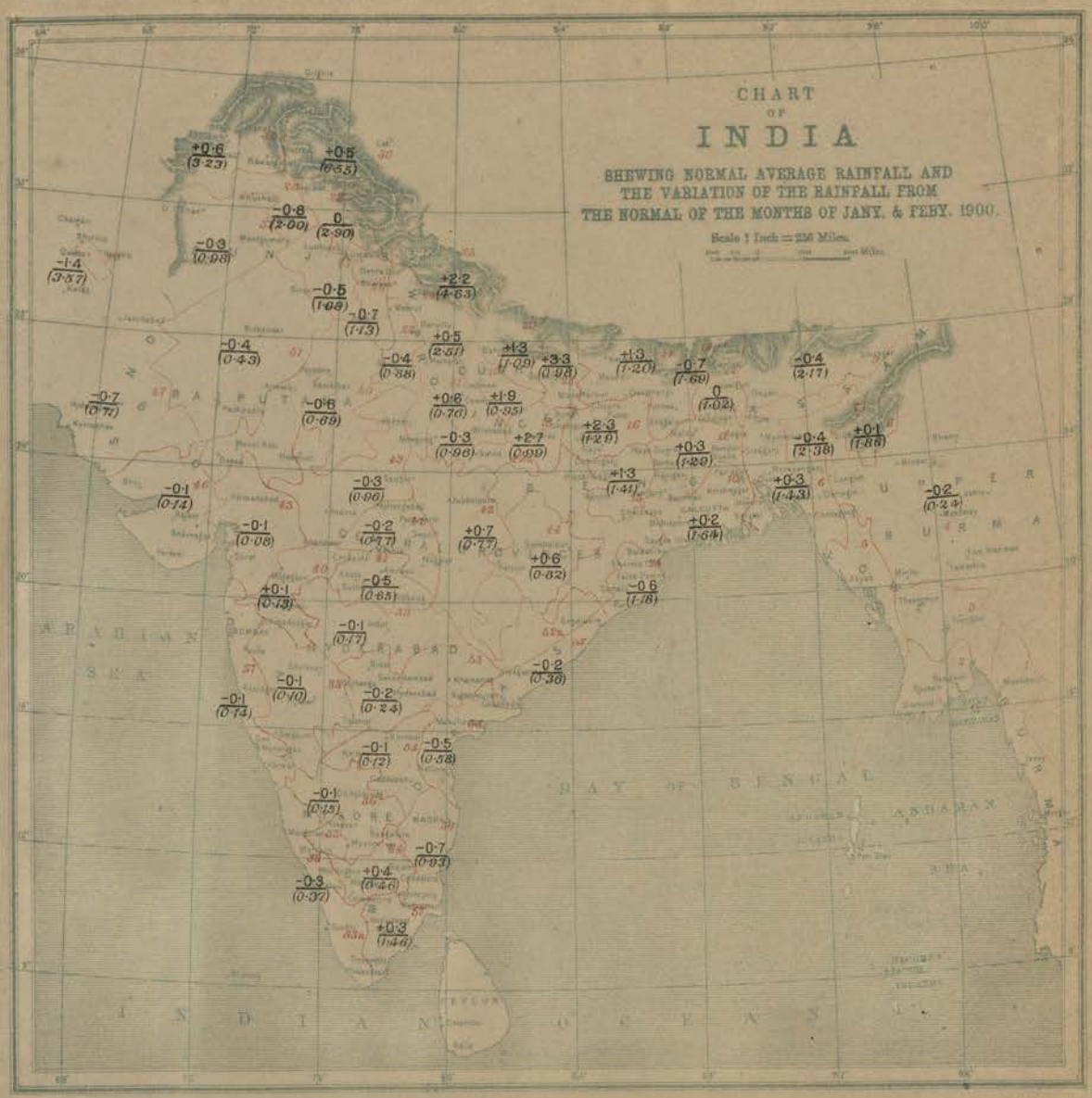
PLATE V.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of November and December 1900.

PLATE VI.—Chart showing the tracks of the more important cyclonic storms of 1900 in the Indian area during the south-west monsoon, a brief summary of which is given on pages 876 and 877.

Explanation.

The name of the districts can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

1. Tenasserim
2. Lower Burma Deltaic
3. Central do.
4. Upper do.
5. Arakan
6. East Bengal
7. Assam, Surma
8. Do., Hills
9. Do., Brahmaputra
10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. North Western Provinces, East
19. South Oudh
20. North do.
21. North Western Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., Hills
31. North Punjab
32. West do.
33. Malabar
34. Travancore
35. Madras, South Central
36. Coorg
37. Mysore
38. Konkan
39. Bombay Deccan
40. Hyderabad, North
41. Khandesh
42. Berar
43. Central Provinces, West
44. Do., Central
45. Do., East
46. Gujarat
47. Kathiawar
48. Sind
49. Baluchistan Hills
50. Central India, East
50a Do. do.
50. Rajputana East, Central India West
51. West Rajputana
52. Madras, East Coast, North
52(a). Do. do. do. (a)
53. Hyderabad, South
54. Madras, Central
55. Madras, East Coast, Central
56. Do. East Coast, South
57. Madras, South



Explanation.

The Chart gives the variations of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

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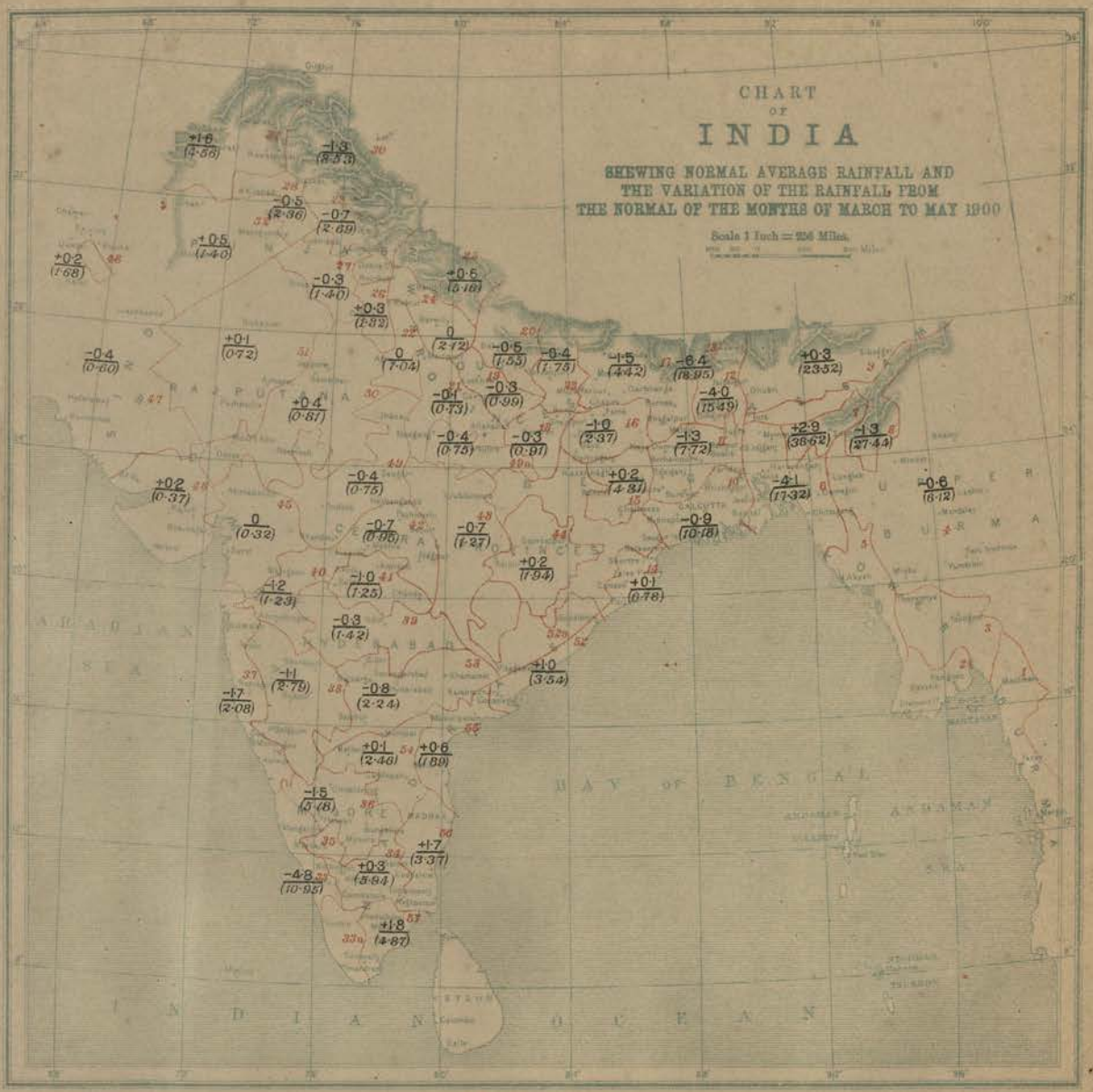
3. Central do.
4. Upper do.
5. Arakan
6. East Bengal
7. Assam, Surma
8. Do., Hills
9. Do., Brahmaputra
10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. North Western Provinces, East
19. South Oudh
20. North do.
21. North Western Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do. West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, submontane
30. Do., Hills
31. North Punjab
32. West do.
33. Malabar
33a. Travancore
34. Madras, South Central
35. Ceded
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. do.
50. Rajputana East, Central India
West
51. West Rajputana
52. East Coast, North
52a. Do. do. (a)
53. Hyderabad, South
54. Madras, Central
55. East Coast, Central
56. East Coast, South
57. Madras, South



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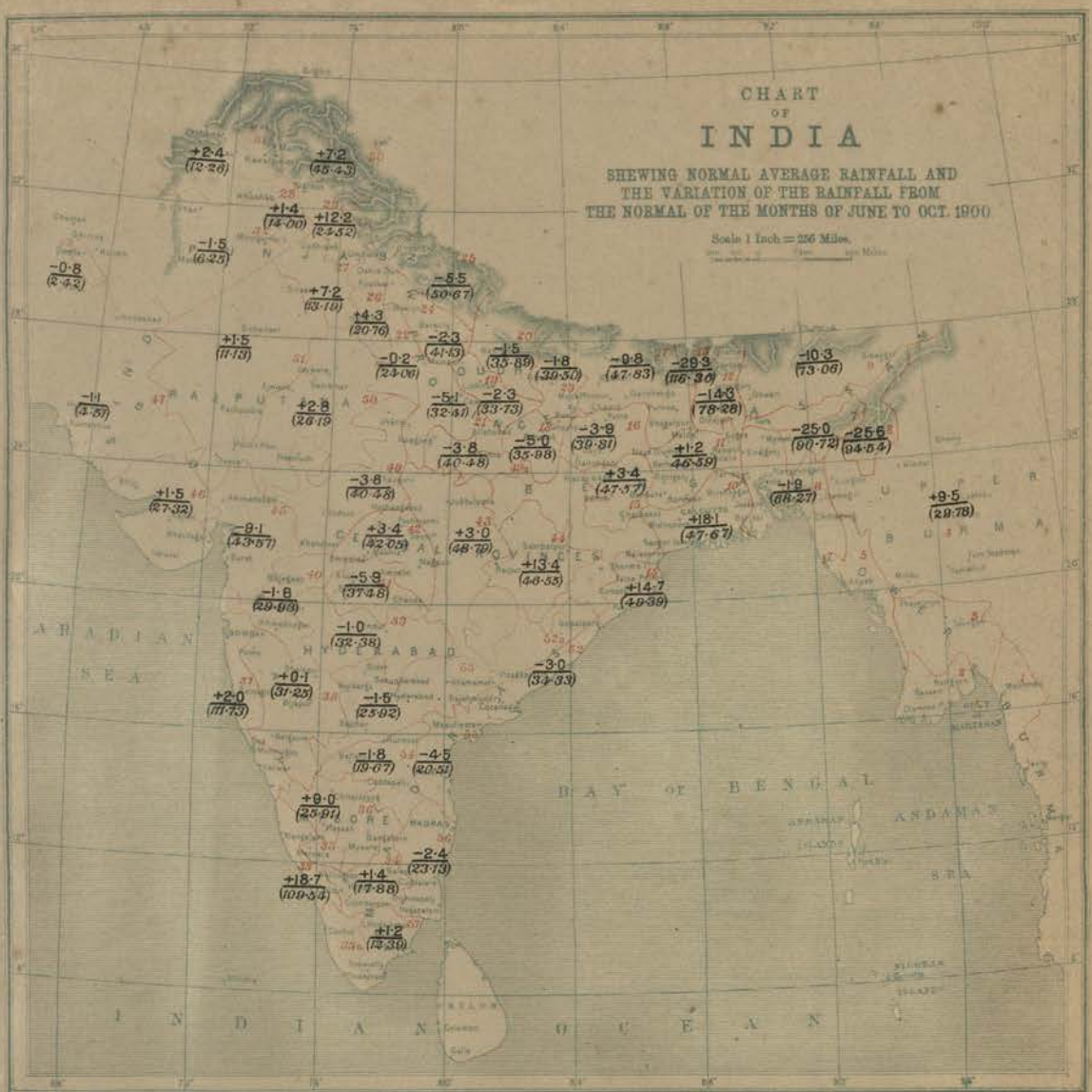
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. North Western Provinces, East
19. South Oudh
20. North do.
21. North Western Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., Hills
31. North Punjab
32. West do.
33. Malabar
33a. Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. do.
50. Rajputana East, Central India West
51. West Rajputana
52. East Coast, North
53. Do. do. (S)
53(a) Do. do. (S)
54. Hyderabad, South
55. Madras, Central
56. East Coast, Central
56a. East Coast, South
57. Madras, South



Explanation.

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12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
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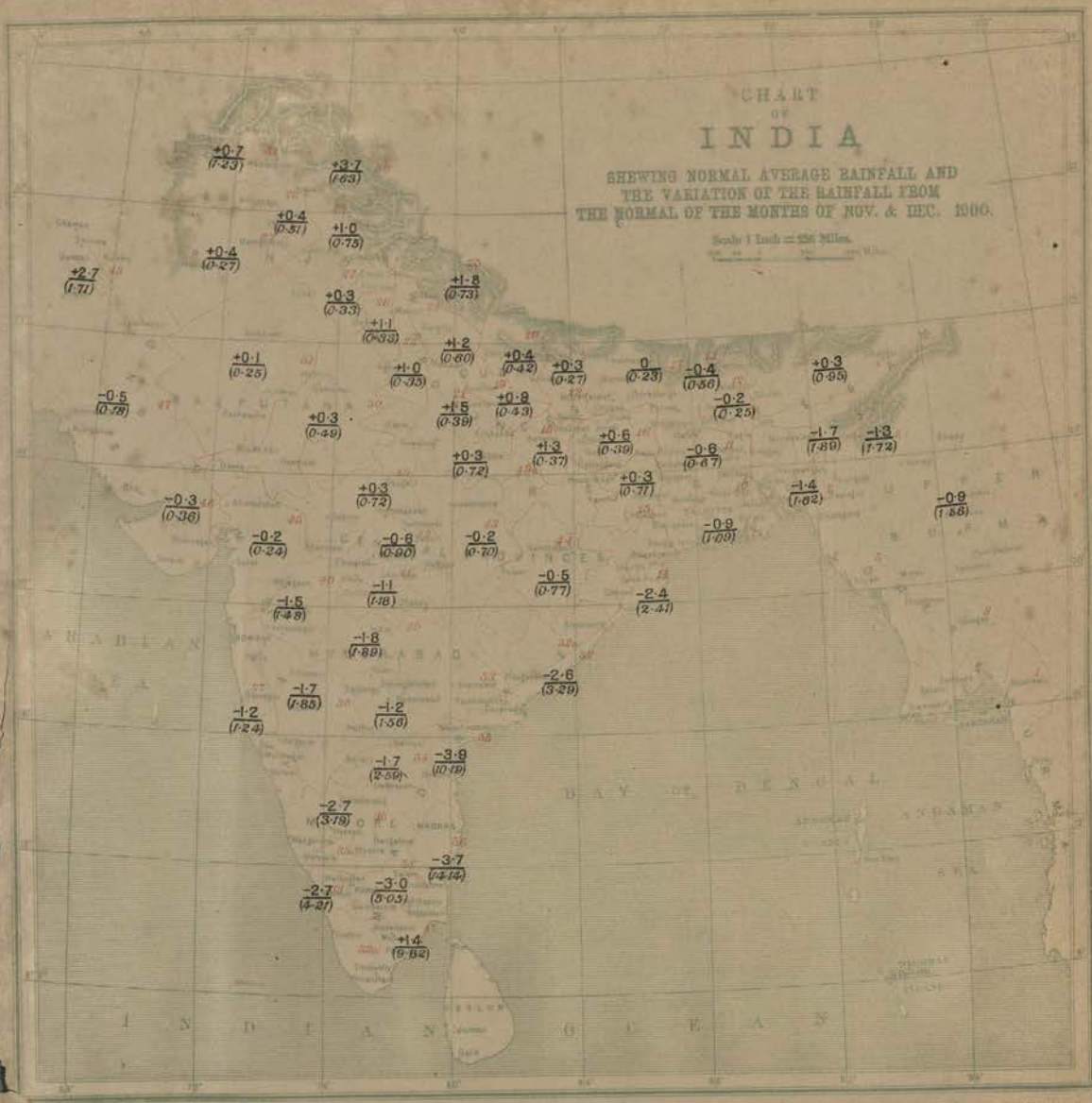
17. North Bihar
18. North Western Provinces, East
19. South Oudh
20. North do.
21. North Western Provinces, Central
22. Do. do. West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., Hills
31. North Punjab
32. West do.
33. Malabar
33a. Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. do.
50. Rajputana East, Central India West
51. West Rajputana
52. East Coast, North
52(a). Do. do. (S)
53. Hyderabad, South
54. Madras, Central
55. East Coast, Central
56. East Coast, South
57. Madras, South



Explsnation.

The Chart gives the variations of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

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8. Do., Hills
9. Do., Brahmapatra
10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. North Western Provinces, East
19. South Oudh
20. North do.
21. North Western Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., Hills
31. North Punjab
32. West do.
33. Malabar
33a Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46 Kathiawar
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. do.
50. Rajputana Eas./Central India
West
51. West Rajputana
52. East Coast, North
52(a). Do. do. (a)
53. Hyderabad, South
54. Madras, Central
55. East Coast, Central
56. East Coast, South
57. Madras, South

TRACKS
OF
CYCLONIC STORMS
OF 1900
in the
INDIAN AREA
During the South West Monsoon.
Scale 1 Inch = 256 Miles
ARABIAN SEA
BAY OF BENGAL
INDIAN OCEAN
ANDAMAN ISLANDS
PUNJAB
RAJPUTANA
OUDH
CENTRAL PROVINCES
BOMBAY
HYDERABAD
MYSORE
MADRAS
UPPER BURMA
LOWER BURMA
CEYLON

GOVERNMENT OF INDIA.

METEOROLOGICAL DEPARTMENT.

THE

INDIA WEATHER REVIEW

FOR THE YEAR

1901.

Published by authority of the Government of India.

UNDER THE DIRECTION OF

JOHN MURRAY, M.A.,

OFFICIATING METEOROLOGICAL REPORTER TO THE GOVERNMENT OF INDIA AND DIRECTOR GENERAL OF INDIAN OBSERVATORIES.

CALCUTTA:

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.

1903.

ANNUAL SUMMARY, 1901.

INTRODUCTION.

The present annual summary completes the discussion of the meteorology of India for the year 1901.

It should be noted that in the monthly reviews it is attempted to present the facts and data from two different points of view. Meteorological data in India are chiefly utilized for the following purposes:—

1st.—In the discussion of the prevalence and spread of diseases, more especially of cholera and other diseases of an epidemic character.

2nd.—In connection with agricultural questions, more especially the progress and character of the crops as determined by the weather conditions of the period.

India has hence been divided into two groups of divisions from what may be termed the medical and agricultural stand-points. For the comparison of medical and meteorological statistics, India is arranged into the following provinces, which are believed to be fairly homogeneous so far as the conditions of the prevalence of the more common diseases are concerned:—

(1) Burma Coast and Bay Islands.
(2) Burma Inland.
(3) Assam.
(4) Bengal and Orissa.
(5) Gangetic Plain and Chota Nagpur.
(6) Upper Sub-Himalayas, including the sub-montane districts of the United Provinces and the Punjab and the meteorological divisions of the South-East, South, Central and North Punjab.
(7) North-West Frontier, Indus Valley and North-West Rajputana.
(8) East Rajputana, Central India and Gujarat.
(9) Deccan.
(10) West Coast.
(11) South India.

The data for each of these divisions are given in Table I in large figures, and the portion of each monthly review, entitled, "Summary of the chief features of the weather in India during the month," is intended to give a sketch of the broader and more important features of the weather in India for the use of those who study the relations between the prevalence and spread of diseases and the weather conditions prevailing at the time in India.

According to the second method of arrangement, India is divided into 57 meteorological districts or divisions from the agricultural stand-point, each of which is fairly homogeneous so far as the distribution of rainfall and the general character of the crops and the conditions of their growth are concerned. The following gives the two series of divisions arranged under the respective political areas or provinces to which they belong:—

Political Division or Province.	Meteorological Division or District.	Meteorological Province.
BURMA	Tenasserim and Bay Islands.	Burma Coast and Bay Islands.
	Lower Burma	
	Arakan	
	Central Burma	Burma Inland.
	Upper Burma	
ASSAM	Assam (Surma)	Assam.
	„ (Brahmaputra)	
BENGAL	East Bengal	Bengal and Orissa.
	Deltaic Bengal	
	Central Bengal	
	North Bengal	
	Orissa	
	Chota Nagpur	Gangetic Plain and Chota Nagpur.
	South Bihar	
	North Bihar	
UNITED PROVINCES OF AGRA AND OUDH.	United Provinces, East	
	United Provinces, Central	
	South Oudh	
	North Oudh	
	United Provinces, East Sub-montane.	
	United Provinces, West Sub-montane.	
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.	South-East Punjab	Upper Sub-Himalayas.
	South Punjab	
	Central Punjab	
	Punjab Sub-montane	
	North Punjab	
BOMBAY NORTH	West Punjab	North-Western Frontier, Indus Valley and North-West Rajputana.
	Sind	
RAJPUTANA AND CENTRAL INDIA.	West Rajputana	East Rajputana, Central India and Gujarat.
	Central India, East	
	Rajputana, East, Central India, West.	
BOMBAY NORTH	Kathiawar and Cutch	
	Gujarat	
UNITED PROVINCES	United Provinces, West.	

Political Division or Province.	Meteorological Division or District.	Meteorological Province.
BOMBAY	Bombay Deccan	Deccan.
	Khandesh	
BERAR	Berar	
CENTRAL PROVINCES.	Central Provinces. West	
	„ „ Central	
	„ „ East	
HYDERABAD OR THE NIZAM'S DOMINIONS.	Hyderabad, North	
	„ South	
BOMBAY	Konkan	West Coast.
	Malabar	
MADRAS	Madras, South	South India.
	„ „ Central	
	„ East Coast, South	
	„ Central	
	„ East Coast, Central	
	„ East Coast, North	
COORG AND MYSORE	Coorg	
	Mysore	
HILL DISTRICTS	Assam Hills	Hills.
	Bengal Hills	
	United Provinces Hills	
	Punjab and North-West Frontier Province Hills.	
	Baluchistan Hills	

The double grouping is shown in Plate I at the end of this summary.

The data of Table I in the monthly reviews and in the present annual part are obtained, with a few exceptions, from the observations telegraphed daily to Simla for publication in the Daily Weather Report. In the case of thermometric observations, they are telegraphed to the nearest half degree. Hence the maxima and minima temperature data of the second class observatories derived from these telegraphic reports and given in that table occasionally differ to some slight extent from the means of the more exact data (recorded to tenths of a degree) tabulated in the observation forms sent to the Calcutta Office, and which are used in the calculation of the mean temperature data in Table II. There is also another reason why the mean maxima and minima data in Tables I and II differ to a slight extent. In Table I the daily or 24 hours' period is assumed to end at 8 A.M., and in Table II at 4 P.M., and hence the maximum temperature in Table I for any month of thirty-one days at any station gives the mean for thirty-one periods of 24 hours ending at 8 A.M. of the 31st, and in Table II for the same number of 24 hours' periods ending at 4 P.M. on the 31st, and hence virtually of a monthly period one day in advance of the former. Similarly for months of 28, 29 or 30 days. These remarks will explain some of the slight discrepancies which may be found between the maxima and minima temperature mean data in Tables I and II, and hence also in the monthly mean variation data given in these tables in the monthly reviews and annual summary.

The methods of exposure of the instruments at observatories in India, and of the reduction of the observations and the calculation of mean data, have been fully stated and explained in the Annual Reports on the Meteorology of India, and need not be repeated. The reader is referred more especially to the Annual Report of the year 1885 and to the "Instructions to observers of the Indian Meteorological Department" for full information on this subject.

Solar Radiation.

It was stated in the Annual Report of 1889 that the observations of solar thermometers are liable to large and irregular changes which make them unfit for accurate observation, except perhaps at the first class observatories in India. The instruments were hence withdrawn from use, except at the following stations :—

Srinagar.	Simla.	Allahabad.
Calcutta (Alipore).	Lahore.	Bombay.
Leh.	Jodhpur.	Aden.

Observations of the solar thermometers were made during the year 1901 at these nine stations. The monthly averages of past years and their variations from the data of 1901 are given in Tables I and II and the mean variation data for the past eleven years in Table III.

TABLE I.—*Average excess of maximum insolation over the corresponding maximum shade temperature.*

STATION.	Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla . . .	14—17	61·7	64·9	67·5	67·9	68·0	62·6	51·0	49·8	61·1	67·7	64·8	62·4	62·5
Lahore . . .	25—26	49·9	57·7	60·5	60·6	56·5	53·8	56·2	59·2	57·2	55·7	54·3	51·9	56·1
Jodhpur . . .	4—5	53·1	55·2	56·6	56·7	54·6	53·5	56·9	58·3	56·3	52·9	51·4	50·2	54·6
Allahabad . .	26	57·1	58·9	59·0	57·3	56·9	57·5	57·9	59·2	58·4	56·1	55·7	57·2	57·6
Calcutta (Alipore) .	24—25	52·2	53·8	54·3	54·8	55·8	53·3	54·9	55·2	55·9	55·5	52·8	51·9	54·2
Bombay . . .	25—26	53·5	54·9	53·9	54·3	53·9	48·6	44·6	48·8	52·8	53·6	53·2	52·8	52·1
Leh . . .	18	63·2	70·3	68·9	68·6	66·0	62·6	60·3	61·1	61·5	62·9	61·1	60·0	63·9
Aden . . .	16—19	52·1	52·8	52·1	48·6	46·2	42·6	43·1	45·1	49·8	52·0	50·5	50·8	48·8

TABLE II.—*Comparison of excess of sun over shade temperatures in 1901 with the averages of Table I.*

STATION.	Number of years instrument, the observations of which are utilised for this comparison, has been in use.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla . .	1	—0·5	—1·9	— 2·7	—3·7	—5·8	—4·2	—9·2	—18·0	+ 4·0	—1·2	— 0·3	— 1·1	—3·7
Lahore . .	16	—2·1	—3·7	— 7·9	—5·8	—4·4	—5·1	—9·1	—6·6	— 7·0	—7·0	— 7·6	— 6·3	—6·1
Jodhpur . .	4	+1·1	+0·2	— 1·0	—0·1	—0·4	—0·7	—1·9	—1·1	— 1·9	—1·0	+ 0·3	+ 0·4	—0·5
Allahabad . .	12	—0·2	—4·9	— 1·3	+0·7	—0·8	—2·2	—1·0	+0·8	— 0·8	—0·3	— 0·1	— 1·2	—0·9
Calcutta (Alipore)	8½	—4·4	—4·5	— 3·5	—5·3	—5·1	— 4·7	—1·1	—2·7	— 6·7	—3·7	— 8·4	— 3·5	—4·5
Bombay . .	16	—3·5	—1·6	— 1·8	—3·5	—3·5	— 4·7	—5·0	—6·6	— 3·7	—5·9	— 2·3	— 4·0	—3·8
Leh . . .	10	+5·3	+2·5	+ 0·1	+1·3	+0·6	+ 2·7	+1·4	+ 0·7	+ 4·7	—0·8	+ 1·0	+ 0·2	+1·6
Aden . .	11	—2·4	—3·2	— 4·5	—1·1	—1·6	— 3·3	+1·8	+ 2·2	+ 4·9	+4·6	+ 3·9	+ 2·0	+0·3

TABLE III.—*Comparison of the annual mean excess of sun over shade temperature for each year of the period 1890-1900 with the averages of past years.*

STATION.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
	°	°	°	°	°	°	°	°	°	°	°
Simla	?	—0·4	—2·9	—1·3	—2·9	?	+2·6	+1·3	+3·5	?	+1·7
Lahore	+2·5	+1·8	+0·9	+0·4	—0·4	—0·6	—0·7	—0·5	—1·0	—2·3	—7·3
Jodhpur . . .	?	?	?	?	?	?	?	+1·7	+0·5	—0·9	—0·9
Allahabad . . .	+0·8	+0·7	—0·6	—0·3	+0·1	—0·5	+0·4	+0·9	—0·6	—0·9	—1·0
Calcutta (Alipore) . .	+0·8	?	?	+1·2	+1·2	+1·5	—0·2	—1·9	—0·1	—2·4	—7·0
Bombay . . .	+1·0	—0·5	0	+0·5	—0·1	+0·2	+0·5	+0·6	—1·0	—1·6	—6·5
Leh	—6·7	—3·6	+4·3	+1·3	+2·2	+1·4	+0·7	+1·3	—1·5	+0·7	+3·6
Aden	?	+5·2	+4·0	+1·3	+0·5	+1·0	—2·1	—4·4	—4·2	—0·9	—4·3

Nocturnal Radiation.

It was stated in the Annual Report of 1890 that the observations of the terrestrial radiation thermometers in India are nearly as unsatisfactory as those of the solar radiation thermometers. Observations were only recorded of these instruments during the year 1901 at the following stations:—

Srinagar.	Jodhpur.	Bombay.
Simla.	Allahabad.	Leh.
Lahore.	Calcutta (Alipore).	Aden.

The following table, TABLE IV, gives the average data of past years for the above stations; TABLE V, the variations from the normal, and TABLE VI, the mean annual variation data for the past eleven years.

TABLE IV.—*Average depression of monthly mean nocturnal radiation temperatures below mean minimum shade temperatures.*

STATION.	Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Srinagar	3—7	7·3	8·4	9·7	7·9	8·3	6·5	6·7	4·9	12·5	10·8	11·4	12·0	8·9
Simla	10—13	6·9	6·4	7·4	7·7	6·9	5·6	3·3	3·0	4·8	8·2	9·0	7·7	6·4
Lahore	24—25	9·2	9·0	8·6	9·0	8·6	5·9	3·8	4·0	6·2	9·4	10·2	9·4	7·8
Jodhpur	4—6	11·0	9·6	10·4	8·7	5·1	3·0	2·0	2·1	4·8	10·4	10·7	10·5	7·4
Allahabad	24—25	10·7	11·3	12·6	12·1	8·9	4·9	3·2	2·6	4·0	8·9	12·1	11·9	8·6
Calcutta (Alipore)	24—25	8·3	7·7	6·4	4·8	3·2	2·1	1·8	1·9	2·6	4·8	7·2	8·8	5·0
Bombay	26	10·2	9·5	8·4	6·7	4·8	2·8	2·2	2·4	3·1	6·6	9·9	10·9	6·5
Leh	17—19	10·4	8·7	10·7	11·4	11·0	11·5	10·1	10·9	12·3	14·7	15·2	12·4	11·6
Aden	17—20	2·8	2·1	2·6	3·1	3·1	3·3	2·0	2·0	3·2	3·8	3·9	3·2	2·9

TABLE V.—*Comparison of mean monthly depression of nocturnal radiation temperatures in 1901 with the averages of Table IV.*

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Srinagar	?	?	?	?	?	?	?	?	−1·2	+0·2	−1·0	−2·7	?
Simla	−5·1	−4·3	−4·3	−3·2	−2·1	−0·1	+1·3	−1·1	−2·1	−3·6	−3·0	−3·4	−2·6
Lahore	+0·2	+0·9	+1·1	+1·7	+2·3	+3·6	+2·2	+0·9	+2·1	+2·2	+3·0	+3·6	+2·0
Jodhpur	−3·2	−1·2	+0·1	+2·4	+0·7	−1·5	−0·2	+0·7	+1·1	−1·7	0	+1·1	−0·1
Allahabad	−3·5	−2·8	−0·6	+1·5	+1·9	+2·9	−0·6	−0·2	+1·9	+1·3	+1·8	+2·2	+0·5
Calcutta (Alipore)	−4·1	−3·8	−1·9	−1·5	−0·6	−0·3	−0·2	−0·2	−0·4	−1·6	−3·1	−2·3	−1·7
Bombay	−2·3	−1·2	−1·5	−1·1	−1·2	−0·9	−0·5	−1·0	+0·1	−1·1	−0·7	−1·4	−1·1
Leh	−1·9	−1·0	+1·6	+2·0	+3·3	+2·6	+0·1	+0·7	+0·1	+1·3	+0·2	−0·3	+0·7
Aden	+0·1	+0·1	+0·8	+0·5	+0·2	?	−0·1	−0·1	+0·1	0	+0·1	+0·2	?

TABLE VI.—*Comparison of the mean annual depression of nocturnal radiation temperatures with the averages of past years.*

STATION.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
	°	°	°	°	°	°	°	°	°	°	°
Simla	+2·3	+2·2	+3·1	+1·8	+1·6	?	−3·3	−1·6	−3·3	−2·7	−2·4
Lahore	−1·2	−1·7	−0·9	−0·7	+0·7	+1·0	−0·3	−0·2	+1·0	+2·0	+2·2
Jodhpur	?	?	?	?	?	?	?	+0·1	0	−0·1	−0·5
Allahabad	−0·9	−0·6	0	−1·3	−1·2	+0·2	+1·0	+0·1	+1·2	+1·6	−0·9
Calcutta (Alipore)	−0·3	+0·1	−0·1	−0·5	−0·1	+0·1	+0·4	+0·2	+0·2	−0·2	−2·2
Bombay	+1·4	+2·5	+0·8	−1·0	−1·8	−1·2	+0·8	−0·3	−1·0	−0·6	−0·7
Leh	+3·1	+3·4	+2·9	+0·4	−2·3	−2·8	−2·0	−2·4	−0·1	−0·4	−2·1
Aden	−0·4	−0·5	+0·1	+1·2	+1·1	−0·4	−0·8	−0·4	−0·3	−0·1	+1·9

Temperature of the ground.

Observations of the temperature of the ground were recorded during the year 1901 at five stations—Calcutta, Allahabad, Dehra, Lahore and Jaipur.

The following table, Table VII, gives the average data of past years for the above stations, and Table VIII, the variations from the normal for each month during 1901.

The thermometers used for the purpose are verified standard mercurial thermometers with attached scales of porcelain, the scale being engraved also on the tube. At Allahabad, with the exception of the thermometer at nine feet, they are read three times daily at equal intervals of eight hours; at Lahore, with the exception of the thermometer at six feet, and Jaipur, with the exception of the thermometers at 10, 20 and 45·6 feet, they are read four times daily at intervals of six hours, and at Dehra once daily, *viz.*, at 3 P.M., and at Calcutta (Alipore) at 1-45 P.M.

The thermometers below the surface have their bulbs protected with pointed copper shoes which rest on the ground at the bottom of a wooden tube, inserted to the specified depth and projecting six inches above the surface, the upper ends being closed by a cap of metal or wood. Those at depths of three and six feet are attached to the lower end of a stout wooden bar of about half the diameter of the tube. Those at one foot have a brass ring attached to the top of the wooden frame by which they are lifted; and in all these the lower part of the frame around the bulb has been cut away, and the lower end fitted with the copper shoe above mentioned.

TABLE VII.—*Average monthly mean temperatures of the ground and of the air.*

		Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
			°	°	°	°	°	°	°	°	°	°	°	°	°
LAHORE.	Air	28—30	52·0	56·7	67·8	79·6	87·4	91·2	88·3	86·6	83·9	74·9	62·4	53·2	73·6
	Surface	16—17	50·6	57·4	74·5	90·3	101·3	104·7	101·1	99·1	95·7	78·8	61·2	51·5	80·5
	1 foot deep	16—17	57·4	60·3	70·4	81·5	89·8	94·4	94·8	93·9	92·3	82·8	71·0	61·3	79·2
	3 feet „	16—17	62·9	63·2	69·9	78·9	86·5	91·5	92·8	92·5	91·9	85·6	76·2	67·7	80·0
	6 „ „	16—17	71·4	69·2	70·6	74·9	80·2	84·8	87·5	88·4	88·9	87·0	82·2	76·3	80·1
JAIPUR.	Air	27—28	58·8	63·3	74·6	85·1	90·6	90·6	83·9	81·4	81·9	76·2	67·7	60·0	76·2
	Surface	20—21	63·1	70·0	83·6	95·1	101·7	100·6	92·0	89·6	91·8	85·6	72·6	63·9	84·1
	4 inches deep	15—16	61·1	68·0	79·6	90·6	97·0	95·7	88·1	85·7	88·0	84·5	72·0	62·0	81·0
	1 foot deep	20—21	61·5	66·7	77·5	87·6	94·4	95·5	89·0	86·6	87·6	83·4	72·9	63·6	80·5
	3 feet „	20—21	66·7	67·9	74·4	81·9	87·7	91·2	88·7	86·5	87·0	85·1	78·2	70·9	80·5
	10 „ „	19—21	74·3	72·8	74·0	77·7	81·8	85·3	86·2	86·0	85·7	85·2	82·5	78·2	80·8
	20 „ „	20	80·4	79·0	78·5	78·2	78·8	80·1	81·3	82·3	82·9	83·4	83·3	82·6	80·9
	45·6 „ „	14—15	81·7	81·8	81·9	81·9	81·9	81·8	81·8	81·7	81·7	81·6	81·7	81·7	81·8
DEHRA.	Air	30—31	54·8	57·4	66·9	77·1	82·6	84·0	79·4	78·0	76·9	70·6	62·4	56·1	70·5
	1·1 feet deep	20—21	57·3	58·8	67·7	78·7	86·4	88·3	84·4	82·4	81·5	76·5	67·7	60·4	74·2
	3·2 „ „	20—21	62·0	61·2	66·8	75·7	82·4	85·0	83·6	82·2	81·7	78·4	72·1	65·9	74·8
	6·4 „ „	19—21	67·6	64·7	67·1	71·6	76·9	80·4	81·5	81·6	81·2	80·3	76·1	71·6	75·1
	12·8 „ „	19—21	73·9	71·9	70·9	71·4	73·2	75·3	77·4	79·2	79·8	79·5	78·3	76·2	75·6
	25·6 „ „	18—20	76·4	75·7	75·0	74·3	74·1	74·1	74·5	75·9	76·9	77·1	77·1	76·8	75·7
ALLAHABAD.	Air	29—31	60·6	65·3	77·8	87·7	92·4	90·6	84·7	83·2	83·2	78·6	69·0	60·7	77·8
	Surface	21—22	59·5	65·5	80·8	92·6	102·0	99·1	88·8	87·0	87·6	81·2	67·9	59·1	80·9
	1 foot deep	21—22	61·1	65·5	75·8	86·2	94·2	94·7	87·8	85·9	85·9	81·0	71·0	62·9	79·3
	3 feet „	21—22	66·6	68·1	74·0	82·4	89·2	92·1	88·2	86·2	86·0	83·4	76·8	70·0	80·3
	9 „ „	14	78·6	77·0	76·8	78·2	81·0	83·5	84·7	84·6	84·6	84·5	83·4	81·3	81·5
CALCUTTA (ALIPORE).	Air	16	76·9	81·6	90·4	95·4	93·5	91·3	88·0	87·1	87·4	86·6	81·2	76·1	86·3
	Surface	22	76·1	85·0	102·4	112·1	107·3	97·9	94·0	93·2	94·1	93·1	85·7	76·8	93·1
	1 foot deep	21—22	67·4	71·1	78·8	86·1	88·2	87·1	85·9	85·5	85·3	83·3	76·4	68·9	80·3
	3 feet „	21—22	72·0	73·8	78·8	84·7	87·5	87·4	86·4	86·2	86·0	85·1	80·8	74·9	82·0
	6 „ „	16—18	77·1	76·3	77·7	81·0	83·9	85·3	85·2	85·2	85·2	85·1	83·6	80·4	82·2

The mean results for Calcutta in Table VII (above) show that the surface of the ground is, on the average of the whole year, 6°·8 hotter than the air at about 2 P.M. They also indicate that the temperature increases 1°·9 in passing from one foot to a depth of six feet.

At Allahabad the ground surface is on the average 3°·1 hotter than the air. The average temperature decreases 1°·6 down to a depth of one foot, and then increases 1°·0 to a depth of three feet, and thence 1°·2 to a depth of 9 feet.

At Jaipur (where the soil on which the instrument is placed is almost pure sand) the surface is as much as 7°·9 hotter than the air on the average of the whole year. In May the difference reaches the large amount of 11°·1. The mean temperature decreases to a depth of one foot, is constant between 1 and 3 feet, and then slowly increases to a depth of 45·6 feet.

At Lahore the surface soil, which is similar in character to that of Jaipur, is on the average 6°·9 hotter than the air. The temperature decreases through a depth of one foot, and thence increases slowly to a depth of six feet.

TABLE VIII.—*Comparison of the mean monthly temperatures of the ground in 1901, with the averages of Table VII.*

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
LAHORE.	Air	+0·5	+0·1	+2·8	−0·8	+0·8	+2·9	+0·7	+2·7	+2·1	+5·0	+3·2	+3·2	+1·9
	Surface	−1·1	−1·5	+1·2	−2·9	−1·5	+1·2	−2·0	+3·0	−1·0	+2·1	−2·7	−3·1	−0·7
	1 foot deep	−0·7	+0·2	+0·8	−0·8	−0·8	+0·7	−0·8	+1·8	+1·0	+2·5	+1·4	+0·5	+0·5
	3 feet „	−0·6	+0·4	+0·4	−0·4	−0·9	+0·2	−0·2	+1·0	+1·1	+1·5	+1·6	+0·8	+0·4
	6 „ „	−0·5	−0·2	−0·2	−0·1	−0·8	−0·6	−0·1	−0·2	+0·5	+0·6	+1·0	+0·5	0
JAIPUR.	Air	−2·4	−1·3	+1·6	0	+2·1	+5·2	+4·1	+0·9	+2·2	+5·5	+2·8	+3·5	+2·0
	Surface	−2·9	−2·8	+1·1	−1·2	+0·2	+5·2	+3·8	−0·4	+2·8	+2·8	+0·7	+0·5	+0·8
	4 inches deep	?	?	?	?	?	?	?	?	+4·0	+1·6	+1·2	+2·9	?
	1 foot deep	−3·4	−1·7	+0·7	+0·4	+1·4	+5·6	+4·8	+0·2	+3·7	+2·4	+1·4	+3·4	+1·6
	3 feet „	−2·9	−1·5	−0·2	+0·3	+0·4	+2·2	+3·7	+0·5	+3·2	+2·5	+1·5	+1·6	+0·9
	10 „ „	−6·9	−0·7	−0·3	−0·5	−0·9	−0·4	+1·5	+1·5	+0·7	−2·3	−1·5	−1·0	−0·9
	20 „ „	−0·2	+1·3	+1·2	+0·9	+0·6	+0·3	+0·3	+0·6	+1·5	+5·5	+5·8	+6·1	+2·0
	45·6 „ „	+0·9	+0·9	+0·8	+0·8	+0·7	+0·8	+0·6	+0·7	+0·6	+0·7	+0·7	+0·8	+0·8
DEHRA.	Air	−2·9	−2·4	−1·3	−2·7	−1·9	+2·9	+0·8	−1·8	−1·9	+0·6	+0·2	−1·2	−1·0
	1·1 feet deep	−1·8	−0·6	−1·2	−0·8	+0·9	+4·9	+3·1	−0·7	−0·5	+0·7	+2·8	+1·0	+0·7
	3·2 „ „	−1·6	−0·2	−1·2	−0·4	+0·1	+2·5	+2·8	+0·1	−0·1	+0·6	+1·8	+1·6	+0·5
	6·4 „ „	−0·2	+0·8	−1·1	−1·1	−1·2	−0·1	+1·3	+0·3	−0·2	−0·3	+1·4	+1·7	+0·1
	12·8 „ „	0	−0·8	−1·0	−0·9	−0·4	+0·1	+0·7	+0·8	+0·7	+0·3	+0·6	+0·9	+0·1
	25·6 „ „	+0·4	−0·1	−0·8	−1·0	−0·8	−0·3	+0·2	+0·7	+1·4	+1·1	+0·6	+0·5	+0·2
ALLAHABAD.	Air	−3·1	−1·3	−2·5	−0·7	+1·2	+7·2	+4·3	+0·5	−0·3	+1·5	+0·1	−0·4	+0·5
	Surface	−2·2	−0·6	+0·9	+0·3	+3·4	+11·2	+8·9	+4·1	+4·1	+4·2	+2·1	+0·8	+3·1
	1 foot deep	−2·0	−0·8	+0·1	+1·3	+1·5	+7·1	+5·4	+2·2	+0·2	+3·7	+2·2	+0·3	+1·8
	3 feet „	−0·6	−0·7	−0·9	+0·5	+0·7	+3·0	+4·8	+2·5	+0·3	+2·1	+2·0	+0·9	+1·2
	9 „ „	+0·2	−0·4	−0·5	−3·6	−0·2	+0·2	+1·2	+1·4	+0·9	+0·8	+0·9	+0·6	+0·1
CALCUTTA (ALIPORE).	Air	−1·5	+0·8	+0·7	+1·6	+1·0	+2·3	+0·8	+0·9	+0·7	+2·1	+0·5	+0·6	+0·9
	Surface	+0·1	−0·5	+0·6	−3·0	−4·4	+1·3	−2·0	−1·8	−2·0	−0·7	−0·3	−0·6	−1·1
	1 foot deep	+1·6	+1·8	+0·6	+0·8	−0·3	+0·5	−0·4	0	−0·6	+1·3	+1·8	+1·7	+0·7
	3 feet „	+1·6	+1·1	−0·1	+0·6	−0·4	−0·1	−0·6	−0·6	−1·1	+0·2	+1·2	+0·8	+0·2
	6 „ „	−0·3	+0·5	+0·2	+0·6	−0·2	−0·7	−0·8	−1·0	−1·2	−0·8	+0·2	−0·7	−0·4

Temperature.

The methods of exposing the thermometers at observatories in India and of deducing the daily and monthly means from the observed readings of the instruments are described in pages 18-19 of the Annual Report for 1890.

The variations of the mean temperature of each month from the normal given in Table II of the monthly reviews are deduced by a comparison of the actual monthly means with the normal monthly means obtained by the same methods, given in Table XII of average monthly temperatures of 87 stations in India and Ceylon, etc., in pages 19 to 22 of the Annual Report for the year 1890. Average data for 134 stations will also be found in pages 39 to 42 of the Annual Report for the year 1887.

Average or normal monthly temperatures of 82 second class stations, based on the whole of the data up to December 1896, were given in Table I of the Annual Summary for 1896.

The variations obtained by a comparisen of these normal means with the actual monthly means in Table II of the monthly weather reviews for the year are given in Table IX.

The mean variations given in Table X of the Geographical Summary are derived from the variation data of Table II of the monthly weather reviews of the year 1901.

In Table I, published in each monthly review, the mean temperature of the day is calculated, as in the Daily Weather Reports, by the formula, daily mean $= \frac{\text{Maximum} + \text{Minimum}}{2}$. It differs from the true daily mean by small amounts varying slightly with the season. The variations of the daily or monthly actual means obtained by this method from normal daily or monthly means similarly calculated, usually differ very little from those obtained by the more laborious computation of true daily means and the comparison of these with normal true daily means. In Table I of the monthly weather reviews of the year 1901 the variations of the monthly mean maxima and minima temperatures from the normal, as well as the variations of the monthly mean temperatures, *i.e.*, $\frac{\text{Maximum} + \text{Minimum}}{2}$ are given.

Normal monthly mean maxima and minima temperatures of 94 stations, calculated from the observations of the eleven years' period, 1878—1888, were given in the Annual Summary for 1891. The additional data for the years 1889—1893 have been utilized to furnish what are probably slightly more accurate means than those given in the 1891 Annual Summary. The re-calculated means were given in the 1894 Annual Summary, Tables I and II, and need not be repeated here.

Tables X and XI (*a*), XI (*b*) and XI (*c*) give summaries of the temperature variation data for each month of the year 1901 and for the year. In the first table (Table X) the same division has been adopted as that employed in the Annual Reports from 1881 to 1890. This enables an exact comparison to be made of the temperature data of the year 1901 with those of previous years given in the Annual Reports. In the second set of tables [Table XI (*a*), XI (*b*) and XI (*c*)] the variation data are given for the eleven meteorological provinces into which the empire is divided for the purpose chiefly of comparing meteorological and health statistics, and in the last table (Table XII) the data are given for 55 of the 57 smaller divisions or areas into which India is sub-divided with a view to the comparison of meteorological and crop statistics—

TABLE IX.—*Comparison of monthly mean air temperature in 1901 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands.	Port Blair	+2·4	+2·8	+2·2	+2·7	—0·3	+0·4	+0·5	+0·8	+1·5	—0·2	+0·2	+0·5	+1·1
	Rangoon	+2·4	+2·3	+1·6	+1·3	—0·8	+0·8	+0·1	—0·4	+1·7	—0·5	+1·9	—1·2	+0·8
	Diamond Island.	+2·2	+2·2	+1·3	+0·9	+0·5	+2·2	+0·8	+0·5	+2·4	+0·4	+2·0	+0·4	+1·3
	Cocos Island	+3·9	+3·2	+1·6	+2·5	+0·9	+0·2	—0·6	+0·1	+2·7	+0·4	+1·0	+0·8	+1·4
	Akyab	—1·4	+0·7	—1·1	+0·8	+0·3	—0·5	—0·2	—0·7	+0·1	+0·5	+0·9	—1·5	—0·2
Bengal and Orissa.	Chittagong	+0·3	+2·2	+1·3	+0·8	+1·6	+0·4	+1·1	+1·0	+0·2	+0·8	+0·5	—0·1	+0·8
	Calcutta (Alipore).	—1·5	+0·8	+0·7	+1·6	+1·0	+2·3	+0·8	+0·9	+0·7	+2·1	+0·5	+0·6	+0·9
	Saugor Island	—2·1	—0·5	0	+0·1	+1·3	+2·0	+0·9	+1·3	+0·8	+1·5	—0·1	+0·1	+0·4
	False Point	—1·1	—1·1	—1·0	—0·3	+0·6	+1·8	+0·8	0	+0·9	+1·5	+0·5	+0·2	+0·2
Gangetic Plain and Chota Nagpur.	Hazaribagh	—3·3	—1·8	—1·0	+0·7	+0·5	+0·7	+1·5	+0·6	—0·1	+2·7	+1·2	+1·0	+0·7
	Darbhanga	—1·9	+0·8	—1·0	—0·1	+0·8	+1·1	+0·4	+0·7	+0·4	+2·8	—0·2	—0·2	+0·3
	Allahabad	—3·1	—1·3	—2·5	—0·7	+1·2	+7·2	+4·3	+0·5	—0·3	+1·5	+0·1	—0·4	+0·5

TABLE IX.—*Comparison of monthly mean air temperature in 1901 with the averages of past years*—contd.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Upper Sub-Himalayas.	Dehra Dun	−2·9	−2·4	−1·3	−2·7	−1·9	+2·9	+0·8	−1·8	−1·9	+0·6	+0·2	−1·2	−1·0
	Roorkee	−2·1	−2·0	−1·4	−3·2	−1·8	+1·9	+1·3	−1·2	−0·9	+0·8	+0·2	−1·2	−0·8
	Meerut	−1·6	−1·6	−0·8	−1·9	+0·2	+3·3	+1·6	−0·5	+0·1	+2·1	+1·0	+0·8	+0·2
	Lahore	+0·5	+0·1	+2·8	−0·8	+0·8	+2·9	+0·7	+2·7	+2·1	+5·0	+3·2	+3·2	+1·9
	Ludhiana	0	−0·4	+0·9	−1·2	+0·3	+3·2	+0·9	+0·8	+1·3	+3·3	+2·5	+1·6	+1·1
North-West Frontier, Indus Valley and North-West Rajputana.	Peshawar	−1·6	−0·4	+1·4	−2·0	−1·7	−1·0	+2·5	+4·4	−0·7	+2·2	+1·4	+0·5	+0·4
	Jacobabad	−0·2	−2·6	+3·3	−1·1	+1·2	+3·0	+2·3	+1·9	−0·3	+3·6	+2·3	+1·1	+1·2
	Kurrachee	−0·6	−2·5	+2·7	+3·7	+2·2	+2·2	+2·0	+0·5	−0·1	+2·1	+1·9	+1·8	+1·3
East Rajputana, Central India and Gujarat.	Jaipur	−2·4	−1·3	+1·6	0	+2·1	+5·2	+4·1	+0·9	+2·2	+5·5	+2·8	+3·5	+2·0
	Deesa	−2·2	−4·0	+1·5	+0·5	+0·7	+3·3	+5·0	+1·5	+4·0	+5·6	+4·7	+4·3	+2·1
Deccan	Belgaum	+2·1	−1·5	+1·2	0	−1·4	+0·3	+0·4	+0·1	+1·8	+0·6	+1·4	+1·5	+0·5
	Sholapur	+3·1	−1·4	+0·2	−0·9	−0·9	+2·0	+0·8	−0·3	+3·0	+2·9	+2·1	+1·9	+1·0
	Poona	+1·4	−2·5	+1·4	+0·6	−0·5	+0·5	+0·5	−0·3	+1·5	+1·9	+0·8	+1·7	+0·6
	Akola	+0·1	−1·7	−0·4	−0·9	+1·2	+3·2	+0·5	−1·8	+1·5	+2·3	−0·1	+0·3	+0·4
	Buldana	−1·6	−3·5	−1·2	−0·7	+1·4	+2·7	+0·9	−1·2	+1·4	+2·5	+0·1	+0·6	+0·1
	Khandwa	−0·6	−1·5	+1·2	+1·1	+2·8	+4·4	+1·5	−0·4	+2·2	+5·8	+3·2	+2·9	+1·9
	Nagpur	+0·1	−2·0	−1·2	−1·2	−0·1	+3·5	+1·5	−1·4	+1·3	+2·8	+0·8	+0·4	+0·4
	Hyderabad (Deccan).	+3·7	−0·1	+0·1	0	−2·5	+0·9	−1·1	+0·6	+3·2	+1·7	+2·1	+1·4	+0·8
West Coast.	Bombay	−0·6	−2·3	+0·7	+0·8	+1·5	0	+0·3	+0·2	+1·8	+0·2	+1·7	+1·6	+0·5
	Karwar	+0·8	+0·	+0·7	+1·4	+0·6	−0·4	+0·9	+0·7	+0·9	+0·6	+2·2	+1·3	+0·8
South India.	Salem	+4·3	+3·9	+0·3	+0·3	+1·1	+2·1	+0·8	+1·2	+1·3	+1·6	+0·8	−0·4	+1·5
	Chitaldroog	+4·3	+0·2	+0·9	+2·2	+0·9	+1·3	+0·8	+0·7	+2·5	+1·2	+1·7	+0·5	+1·4
	Bangalore	+4·7	+2·2	−0·3	+1·1	+0·2	+0·8	+0·8	+1·2	+2·7	+1·5	+1·4	−0·2	+1·3
	Hassan	+3·0	+1·6	−0·1	+1·9	+0·8	+1·4	+0·4	+0·6	+2·2	+0·1	+0·3	−0·8	+1·0
	Mysore	+3·6	+2·5	+0·2	+2·0	+0·9	+0·5	+0·4	+1·1	+1·6	−0·2	−0·2	−0·8	+1·0
	Madras	+2·3	+2·9	−0·7	−0·6	+0·5	+1·3	+0·4	+0·1	+0·2	+1·0	−0·2	−1·1	+0·5
	Bellary	+4·8	+1·0	−0·1	+0·8	−1·4	+0·1	+0·7	+0·5	+2·3	+2·5	+1·0	+0·6	+1·1
Hill Station, Baluchistan.	Quetta	−0·5	−3·3	+3·2	−3·1	−0·6	−3·8	−0·5	+2·2	+0·9	+1·3	+2·1	−0·1	−0·2
Hill Stations, Northern India.	Leh	−5·9	−6·9	−0·2	−2·6	+1·2	−3·0	−3·0	+0·7	+0·3	+4·9	+2·6	0	−1·0
	Srinagar	+1·0	+3·5	+3·9	−3·4	−1·5	−4·0	−0·5	+3·1	−0·1	+4·6	+1·5	+0·7	+0·7
	Kailang	−4·7	+0·5	−1·3	−3·0	−0·6	−2·3	−1·8	+0·9	−2·0	+5·0	+5·1	+2·0	−0·2
	Simla (Ridge)	−5·2	−4·0	−0·8	−3·5	−1·9	+1·4	+0·9	−0·4	−2·5	+1·9	+0·5	−1·7	−1·4
	Chakrata	−5·0	−3·3	−0·7	−2·1	−1·3	+2·3	+0·2	−0·2	−1·6	+2·9	+1·3	−0·5	−0·7

TABLE IX.—*Comparison of monthly mean air temperature in 1901 with the averages of past years*—concld.

Meteorological Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Hill Stations, Northern India—*concluded.*	Ranikhet	−4·9	−2·2	−1·0	−0·9	+1·4	+4·4	+1·0	+0·1	−0·6	+2·3	+0·9	−1·1	0
	Katmandu	−1·9	+0·5	−0·5	+0·4	0	+0·4	−0·6	+0·2	−1·5	+1·7	+0·5	−2·2	−0·3
	Darjeeling	−2·4	+3·6	0	+1·6	+0·8	+1·5	+0·9	+1·3	+0·8	+2·1	+1·7	?	?
Hill Stations, Central India.	Mount Abu	−2·9	−4·0	+2·2	+0·8	+1·0	+2·7	+2·9	+0·6	+2·0	+3·4	+2·9	+2·4	+1·2
	Pachmarhi	−2·0	−2·1	−1·7	−0·8	+1·5	+4·5	+1·9	−0·8	+0·5	+3·4	+1·5	+1·0	+0·6
	Chikalda	−2·1	−3·5	−0·3	−0·8	+1·1	+4·2	+1·0	−0·9	+1·3	+3·2	+1·2	+1·1	+0·5
Hill Station, South India.	Wellington	+3·1	+2·6	−0·7	−0·3	−0·9	−0·1	0	+0·3	+0·1	+0·3	+1·0	+0·6	+0·5
Extra India.	Aden	+2·0	−1·2	−1·2	+0·6	+1·7	+0·8	+2·5	+1·5	+0·7	−0·8	+0·8	−0·6	+0·6
	Perim	+1·9	−0·9	−1·3	+0·1	+0·8	−0·1	+0·6	+1·1	+0·1	−0·6	+0·2	−0·2	+0·1
	Zanzibar	+1·3	−1·9	+1·3	+0·1	+0·3	−0·9	+0·1	−0·2	−0·9	−0·6	0	+0·1	−0·1
	Port Victoria (Seychelles).	−0·9	−1·1	−0·1	−0·3	−1·1	−1·2	−1·6	−2·1	−2·4	−1·3	−0·8	−1·3	−1·2
	Mauritius (Pamplemanses)	+0·4	−0·5	+0·5	−0·9	+1·5	−0·3	+0·4	−0·6	−1·0	+1·0	−0·6	−0·9	−0·1

TABLE X.—*Geographical summary of the temperature data of Table II in the Monthly Weather Reviews of 1901.*

Meteorological Area.	Number of stations.	January.	February.	March.	April	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
North-West Himalaya	6	−4·1	−2·1	0	−2·6	−0·5	−0·2	−0·5	+0·7	−1·1	+3·6	+2·0	−0·1	−0·4
Sikkim Himalaya and Nepal.	1—2	−2·2	+2·1	−0·3	+1·0	+0·4	+1·0	+0·2	+0·8	−0·4	+1·9	+1·1	−2·2	+0·3
Punjab Plains	3	−0·4	−0·2	+1·7	−1·3	−0·2	+1·7	+1·4	+2·6	+0·9	+3·5	+2·4	+1·8	+1·2
Gangetic Plain	5	−2·3	−1·3	−1·4	−1·7	−0·3	+3·3	+1·7	−0·5	−0·5	+1·6	+0·3	−0·4	−0·1
Western Rajputana	4	−1·5	−3·3	+2·4	+1·0	+1·3	+2·8	+3·1	+1·2	+1·4	+3·7	+2·8	+2·4	+1·4
Eastern Rajputana and Central India.	1	−2·4	−1·3	+1·6	0	+2·1	+5·2	+4·1	+0·9	+2·2	+5·5	+2·8	+3·5	+2·0
Nerbudda Valley	1	−0·6	−1·5	+1·2	+1·1	+2·8	+4·4	+1·5	−0·4	+2·2	+5·8	+3·2	+2·9	+1·9
Chota Nagpur	1	−3·3	−1·8	−1·0	+0·7	+0·5	+6·7	+1·5	+0·6	−0·1	+2·7	+1·2	+1·0	+0·7
Lower Bengal	2	−1·8	+0·2	+0·4	+0·9	+1·2	+2·2	+0·9	+1·1	+0·8	+1·8	+0·2	+0·4	+0·7
Orissa	1	−1·1	−1·1	−1·0	−0·3	+0·6	+1·8	+0·8	0	+0·9	+1·5	+0·5	+0·2	+0·2
Central Provinces South and Berar.	5	−1·1	−2·6	−1·0	−0·9	+1·0	+3·6	+1·2	−1·0	+1·2	+2·8	+0·7	+0·7	+0·4
Konkan	2	+0·1	−1·1	+0·7	+1·1	+1·1	−0·2	+0·6	+0·4	+1·4	+0·4	+2·0	+1·5	+0·7
Deccan, Hyderabad and Mysore.	9	+3·3	+0·2	+0·4	+0·9	−0·4	+0·9	+0·4	+0·5	+2·3	+1·4	+1·2	+0·6	+1·0
East Coast and Carnatic	2	+3·3	+3·4	+0·1	−0·2	+0·8	+1·7	+0·6	+0·7	+0·8	+1·3	+0·3	−0·8	+1·0
Arakan and Pegu	4	+0·9	+1·9	+0·8	+1·0	+0·4	+0·7	+0·5	+0·1	+1·1	+0·3	+1·3	−0·6	+0·7
Bay Islands	2	+3·2	+3·0	+1·9	+2·6	+0·3	+0·3	−0·1	+0·5	+2·1	+0·1	+0·6	+0·7	+1·3
Extra-Tropical India	25—26	−2·3	−1·3	+0·3	−0·7	+0·4	+2·1	+1·2	+0·7	+0·2	+3·0	+1·6	+0·7	+0·5
Tropical India	25	+1·8	+0·4	+0·3	+0·6	+0·2	+1·3	+0·5	+0·1	+1·6	+1·3	+1·0	+0·4	+0·8
Whole India	50—51	−0·3	−0·5	+0·3	−0·1	+0·3	+1·7	+0·9	+0·4	+0·9	+2·1	+1·3	+0·6	+0·6

TABLE XI (*a*).—*Variations of the mean monthly maximum temperature from the normal in 1901 in the eleven meteorological provinces of India.*

Meteorological Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands	+1·7	—0·2	—0·5	+1·6	—0·7	+0·8	+0·2	—0·5	+1·6	—0·5	+0·5	—0·9	+0·3
Burma Inland . . .	—1·2	+0·9	+0·8	+1·3	—0·1	+0·6	+1·4	—0·2	—0·5	—0·2	—1·3	—1·9	0
Assam	—1·5	+2·3	+2·9	+0·7	+1·7	—0·8	+0·1	+0·2	—0·2	+0·7	—0·8	—0·6	+0·4
Bengal and Orissa . .	—3·1	+0·1	+1·1	+1·6	+1·7	+1·6	+1·1	+0·8	+0·6	+1·9	0	+0·2	+0·6
Gangetic Plain and Chota Nagpur.	—6·2	—3·2	—2·5	—0·6	+1·0	+6·4	+3·5	+0·3	+0·4	+3·2	+2·2	+1·6	+0·5
Upper Sub-Himalayas . .	—5·6	—2·4	—1·4	—3·3	0	+4·3	+2·4	—0·3	+1·4	+2·8	+2·3	+1·3	+0·1
North-West Frontier, Indus Valley and North-West Rajputana.	—3·8	—1·7	+2·8	—0·2	+0·1	+3·3	+2·7	+2·2	+0·2	+2·7	+3·6	+2·0	+1·2
East Rajputana, Central India and Gujarat.	—4·7	—2·9	+1·0	—0·6	+0·9	+4·9	+5·7	—0·1	+4·3	+3·9	+4·1	+2·7	+1·6
Deccan	—1·3	—4·1	—2·1	—1·1	+0·1	+4·5	+2·2	—1·4	+3·1	+4·0	+2·5	+2·1	+0·7
West Coast	—0·5	—0·5	+1·0	+0·9	+0·8	+0·3	+0·9	+0·7	+0·8	—0·3	+0·8	+0·5	+0·5
South India	+2·5	+0·1	—1·2	—0·3	—0·1	+1·4	+1·0	+1·0	+1·8	+1·5	+0·1	0	+0·7

TABLE XI (*b*).—*Variations of the mean monthly minimum temperature from the normal in 1901 in the eleven meteorological provinces of India.*

Meteorological Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands .	+4·5	+4·0	+2·3	+2·5	+0·5	+1·0	+0·6	+0·4	+1·7	+1·1	+2·3	—0·6	+1·7
Burma Inland . . .	+0·2	+3·9	+0·1	+1·6	+0·5	+0·6	+0·4	+0·5	+0·5	+1·7	+2·3	+0·5	+1·1
Assam	—0·7	+2·2	—2·0	—0·5	+0·5	—0·5	+0·1	+0·6	—0·3	+0·9	+0·9	—0·4	+0·1
Bengal and Orissa . . .	+0·1	+2·1	—2·0	+0·4	+0·4	+0·4	+0·7	+0·8	+0·3	+1·3	+0·9	+0·2	+0·5
Gangetic Plain and Chota Nagpur.	+0·9	+2·8	—1·4	—0·4	+0·3	+2·2	+1·6	+0·8	—0·8	+2·0	+1·1	+0·4	+0·8
Upper Sub-Himalayas . .	+1·1	+0·7	+0·4	—2·4	+0·2	+1·0	+0·9	+1·6	—0·2	+2·6	+2·0	+1·0	+0·7
North-West Frontier, Indus Valley and North-West Rajputana.	—0·1	—2·9	+2·0	—1·0	+0·6	+0·9	+1·6	+2·3	—0·5	+2·5	+1·2	+0·4	+0·6
East Rajputana, Central India and Gujarat.	—0·5	—0·5	+1·0	—0·1	+1·8	+3·1	+2·6	+1·1	—0·2	+3·1	+3·1	+3·8	+1·5
Deccan	+2·2	+0·7	+0·8	+0·7	+1·1	+1·9	+0·8	+0·2	+0·3	+1·3	+1·3	+1·6	+1·1
West Coast	+2·0	+1·0	+1·0	+1·0	+0·9	+0·2	+1·0	+1·0	+1·0	+0·9	+1·7	+1·4	+1·1
South India	+4·0	+3·9	+0·3	+1·0	+0·1	+0·7	+0·5	+0·5	+1·2	+0·9	+1·0	—0·4	+1·1

TABLE XI (*c*).—*Variations of the mean monthly temperature from the normal in 1901 in the eleven meteorological provinces of India.*

Meteorological Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands .	+3·1	+1·9	+0·9	+2·1	—0·1	+0·9	+0·4	0	+1·7	+0·3	+1·4	—0·8	+1·0
Burma Inland . . .	—0·5	+2·4	+0·5	+1·4	+0·2	+0·6	+0·9	+0·2	0	+0·8	+0·5	—0·8	+0·5
Assam	—1·1	+2·3	+0·4	+0·1	+1·1	—0·6	+0·1	+0·4	—0·3	+0·8	+0·1	—0·5	+0·2
Bengal and Orissa . . .	—1·5	+1·1	—0·4	+1·0	+1·1	+1·0	+0·9	+0·8	+0·5	+1·6	+0·5	+0·2	+0·6

TABLE XI (*c*).—*Variations of the mean monthly temperature from the normal in 1901 in the eleven meteorological provinces of India*—concld.

METEOROLOGICAL PROVINCES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°		°	°	°	°	°	°	°	°	°	°
Gangetic Plain and Chota Nagpur.	−2·7	−0·2	−2·0	−0·5	+0·7	+4·3	+2·5	+0·6	−0·2	+2·6	+1·7	+1·0	+0·7
Upper Sub-Himalayas . .	−2·3	−0·8	−0·5	−2·9	+0·1	+2·7	+1·7	+0·7	+0·6	+2·7	+2·2	+1·2	+0·5
North-West Frontier, Indus Valley and North-West Rajputana.	−1·9	−2·3	+2·4	−0·6	+0·4	+2·1	+2·1	+2·2	−0·1	+2·6	+2·4	+1·2	+0·9
East Rajputana, Central India and Gujarat.	−2·6	−1·7	+1·1	−0·3	+1·4	+4·0	+4·2	+0·5	+2·1	+3·5	+3·6	+3·3	+1·6
Deccan	+0·5	−1·8	−0·7	−0·2	+0·6	+3·3	+1·5	−0·6	+1·7	+2·7	+1·9	+1·9	+0·9
West Coast	+0·8	+0·2	+1·0	+1·0	+0·9	+0·3	+1·0	+0·9	+0·9	+0·3	+1·3	+1·0	+0·8
South India	+3·3	+2·0	−0·5	+0·4	0	+1·0	+0·8	+0·8	+1·5	+1·2	+0·5	−0·3	+0·9

TABLE XII.—*Variations of the mean monthly and annual temperatures from the normal in 1901 in 55 of the 57 meteorological districts or divisions of India.*

PROVINCE.	DIVISION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
BURMA	1. Tenasserim . .	+3·6	+1·6	+1·5	+1·8	+0·1	+1·4	+0·5	+0·1	+2·2	+0·5	+1·4	−0·8	+1·2
	2. Lower Burma Deltaic .	+2·7	+2·5	+0·9	+1·7	−0·2	+1·0	+0·6	+0·2	+1·8	+0·2	+1·8	−0·2	+1·1
	3. Central do. .	?	+2·0	−1·1	+2·2	−0·7	?	0	+0·1	+0·7	+1·4	+1·9	?	+0·7
	4. Upper do. .	−0·5	+2·4	+0·6	+1·4	+0·4	+0·6	+1·1	0	−0·4	+0·6	+0·2	−0·7	+0·5
	5. Arakan . . .	?	+1·1	?	?	+0·5	?	−0·1	−0·2	?	+0·3	+0·5	−1·8	0
BENGAL AND ASSAM.	6. Eastern Bengal . .	−1·1	+2·3	+0·7	+1·6	+1·1	−0·1	+1·1	+1·0	+0·2	+0·6	+0·4	+0·1	+0·7
	7. Assam, Surma . .	−0·2	+3·1	+2·7	+0·4	+2·0	+0·3	+1·3	+0·9	−0·1	+1·0	0	−0·4	+0·9
	9. Do. Brahmaputra .	−1·6	+1·8	−0·7	−0·1	+0·7	−1·1	−0·5	+0·1	−0·5	+0·8	+0·1	−0·6	−0·1
	10. Deltaic Bengal . .	−1·8	+0·2	−0·5	+1·1	+1·0	+1·1	+0·7	+1·0	+0·6	+1·4	+0·5	0	+0·4
	11. Central do. . .	−1·4	+1·7	−0·8	+0·7	+0·8	0	+1·0	+1·0	+0·4	+2·0	+0·8	+0·5	+0·6
	12. North do. . .	−2·2	+2·3	−0·7	+1·2	+1·8	+0·2	+0·7	+1·0	+0·6	+2·0	+0·2	+0·2	+0·6
	13. Bengal Hills . .	−2·5	+4·8	−1·3	+1·8	+1·0	+1·8	+0·4	+1·0	−0·1	+2·1	+1·5	?	+1·0
	14. Orissa . . .	−1·4	−0·8	−1·0	+0·5	+0·4	+3·6	+1·0	+0·4	+0·8	+1·7	+0·4	+0·2	+0·5
	15. Chota Nagpur . .	−3·0	−0·6	−2·2	−0·5	+0·7	+4·9	+1·6	+0·7	0	+2·6	+1·3	+1·7	+0·6
	16. South Bihar . .	−2·2	+0·5	−2·1	+0·3	+0·8	+3·5	+1·9	+0·2	−0·2	+3·3	+1·8	+1·5	+0·8
	17. North do. . .	−1·7	+1·0	−1·5	+0·6	+1·6	+1·5	+0·9	+0·7	+0·6	+2·9	+0·8	+0·1	+0·6
UNITED PROVINCES OF AGRA AND OUDH.	18. United Provinces, East	−2·5	−0·7	−2·7	−1·4	+0·6	+5·4	+4·3	+0·8	−0·5	+2·3	+2·2	+0·8	+0·7
	19. South Oudh . .	−2·9	−0·4	−1·6	−1·2	+0·8	+4·2	+3·7	+0·3	−0·3	+1·5	+2·1	+1·4	+0·6
	20. North do. . .	−2·6	+0·1	?	−0·3	−0·2	+4·0	+1·9	+1·3	−0·7	+2·5	+1·3	+0·5	+0·7
	21. United Provinces, Central.	−3·6	−1·2	−0·2	−0·5	+2·8	+6·3	+4·7	+0·4	+0·6	+3·4	+4·4	+1·4	+1·5
	22. Do. do., West	−3·0	−0·9	−0·7	−2·3	+0·4	+4·8	+3·7	+0·5	+1·5	+3·5	+2·9	+1·7	+1·0
	23. Do. do., East	−2·6	−0·2	−2·0	−0·6	+0·6	+1·6	+1·1	0	−1·0	+2·7	+2·0	+0·6	+0·2
	24. Do. do., West Submontane.	−2·4	−1·2	−1·7	−2·9	−0·4	+2·6	+2·3	−0·5	−0·6	+1·4	+1·7	+0·5	−0·1
	25. Do. do., Hills Submontane.	−5·2	−1·8	−1·5	−1·8	+0·8	+3·7	+1·6	0	−0·6	+2·7	+1·9	−0·7	−0·1

TABLE XII.—*Variations of the mean monthly and annual temperatures from the normal in 1901 in 55 of the 57 meteorological districts or divisions in India*—concld.

Province.	Division.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Punjab and North-West Frontier Province.	26. South-East Punjab	−3·7	−1·9	−1·4	−2·9	+0·8	+3·6	+2·6	+0·4	+1·6	+2·8	?	+1·3	+0·3
	27. South do.	−2·8	−1·5	+0·1	?	+0·3	+3·2	+1·8	+2·7	+2·7	+3·1	+2·4	+1·1	+1·2
	28. Central do.	−0·6	+0·5	+1·7	−2·0	+0·7	+2·3	+0·5	+2·5	+1·8	+4·3	+4·0	+2·3	+1·5
	29. Punjab Submontane	−2·1	−0·3	+0·4	−3·7	−0·2	+2·2	+1·1	+1·2	+0·6	+3·5	+1·9	+1·2	+0·5
	30. Do. and North-West Frontier Province Hills	−4·0	−2·6	+0·1	−3·6	−1·5	−1·7	−1·0	+1·2	−1·7	+3·0	+2·0	−0·3	−0·8
	31. North Punjab	−2·2	−0·9	+0·9	−2·8	−1·5	−1·1	+2·0	+4·1	−0·8	+2·8	+2·2	+1·1	+0·3
	32. West do.	−2·0	−2·0	+3·1	−2·0	−1·0	+1·4	+1·7	+2·6	−0·4	+2·8	+2·2	+1·0	+0·6
Bombay and Malabar Coast Districts (Madras.)	33. Malabar	+2·0	+1·5	+1·0	+0·8	+0·9	+1·0	+1·3	+1·2	+0·7	+0·7	+0·2	+0·2	+1·0
	34. Madras, South Central	+3·8	+3·6	+0·2	+0·6	+0·6	+1·1	+0·9	+1·2	+0·8	+0·9	+0·4	−0·7	+1·1
	35. Coorg	+3·6	+0·9	+1·0	+0·8	−0·1	+0·2	−0·1	−0·3	+1·6	0	+0·9	−0·1	+0·7
	36. Mysore	+4·1	+2·3	+0·1	+1·3	−0·2	+0·5	+0·4	+0·6	+2·1	+0·9	+0·8	−0·2	+1·1
	37. Konkan	−0·3	−0·7	+1·1	+1·1	+1·0	−0·2	+0·8	+0·7	+1·0	+0·1	+2·2	+1·8	+0·7
	38. Bombay Deccan	+2·4	−2·0	+0·8	+0·7	−0·8	+1·2	+0·8	0	+2·3	+2·4	+2·3	+2·5	+1·1
	40. Khandesh	+0·8	−3·4	+1·4	+1·5	+0·9	+2·2	+1·7	+1·0	+2·9	+3·7	+2·2	+2·6	+1·5
Central Provinces and Berar.	41. Berar	−0·1	−2·2	−0·4	−0·2	+1·7	+4·0	+1·0	−1·9	+1·8	+3·0	?	+1·8	+0·8
	42. Central Provinces, West	−1·1	−1·9	−0·7	−0·4	+1·4	+4·7	+2·3	−1·1	+1·3	+3·6	+2·4	+2·9	+1·1
	43. Do., Central	−1·2	−1·7	−1·5	−1·0	+1·1	+4·1	+2·0	−1·5	+0·3	+2·5	+1·6	+1·4	+0·5
	44. Do., East	−0·9	−1·5	−3·6	−1·3	+0·7	+5·0	+1·2	−1·2	+1·1	?	+0·6	+0·4	0
Bombay (North)	45. Gujarat	0	−2·8	+2·8	+0·8	+0·6	+3·8	+3·0	+0·6	+2·7	+3·9	+4·2	+4·2	+2·0
	46. Kathiawar and Cutch	−2·5	−1·0	+1·1	+1·2	+0·3	+2·8	+2·2	+0·6	+0·8	+0·7	+2·8	+2·7	+1·0
	47. Sind	−1·7	−3·3	+2·6	+1·1	+1·5	+2·8	+1·8	+0·8	−0·4	+1·8	+2·7	+1·5	+0·9
	48. Baluchistan Hills	−0·8	−3·6	+4·1	−4·3	−0·8	−3·9	−1·1	+1·3	+0·4	+0·9	+3·2	+1·0	−0·3
Rajputana and Central India.	49. Central India, East	−2·6	−1·5	+0·3	−1·0	+1·7	+5·0	+4·6	−0·5	+1·3	+4·0	+3·0	+2·7	+1·4
	50. Rajputana, East, Central India, West.	−3·0	−1·8	+1·1	−0·4	+2·2	+4·4	+5·5	+1·4	+3·1	+5·0	+4·4	+3·8	+2·1
	51. West Rajputana	−2·6	−1·6	+1·2	−0·9	+2·7	+5·2	+5·0	+3·1	+2·2	+4·8	+2·6	+1·6	+1·9
Madras	52. East Coast, North	+2·1	−0·6	−0·5	−0·1	+0·6	+1·9	+0·2	−0·3	+1·5	+0·5	+0·5	−0·3	+0·5
	53. Hyderabad, South	+3·3	−0·5	−1·0	+0·4	−1·8	+1·3	+0·2	+0·4	+3·1	+2·0	+2·1	+1·7	+0·9
	54. Madras, Central	+4·8	+1·6	−0·4	+0·9	−0·9	+1·3	+1·2	+1·3	+3·0	+2·6	+1·6	+0·4	+1·5
	55. East Coast, Central	+3·5	+1·4	−1·1	−0·5	−0·2	+1·5	+0·4	−0·1	+2·2	+1·1	+0·1	−1·0	+0·6
	56. Do., South	+2·9	+3·4	−0·4	+0·2	+0·6	+1·1	+1·3	+1·3	+0·7	+1·6	+0·2	−0·2	+1·1
	57. Madras, South	+1·9	+2·3	−1·5	−1·5	−0·	−0·5	+0·6	+1·1	+0·4	+1·4	−0·4	−0·3	+0·3

The cold weather period (January and February 1901).—The following summarizes the chief features of the weather of India during the period.

Seven depressions, three of which probably originated in Kathiawar, affected the weather of Northern India during January. The fourth storm of the month (9th to 14th), which originated in Persia and gave rise in India to a secondary depression in Punjab, gave heavy snow over the hills and general rain in the plains of Northern India.

The precipitation of the month was in defect only in Assam, Surma, East Bengal and Burma, and exceeded the normal everywhere else, except in the West Punjab and in the Assam Hills, where it was normal. The temperature conditions changed rapidly in Northern India during the month, the warm and cool waves following each other at very short intervals as the various storms of the month moved eastwards. In consequence of the shortness of the intervals between the storms the warm and cool waves were in general only slightly marked. The cool wave which followed the fourth storm of the month was, however, of unusual intensity, and was an exception to the general rule. The lowest temperatures of the month, which were, however, not unusually low, were recorded during the passage of this cold wave.

Temperature was throughout the month in more or less considerable excess in the Peninsula and in Burma and in defect in Northern India.

In February seven depressions, three of which formed in Khandesh or North Bombay, and the remainder in Baluchistan or Upper India, gave moderate rain over North-Western India and numerous thundershowers to Northern and Central India and the North Deccan.

The rainfall of the month was in defect only in North Bombay, Khandesh, West Rajputana, Assam and the greater part of Bengal and was in excess elsewhere.

A noteworthy feature of the temperature conditions during February was the persistent low temperature over Kathiawar and Sind during the second-half of the month—a feature all the more remarkable that in these areas practically no rain fell in February.

The rainfall of the period was in excess over the whole of India except in Assam and Sind, the excess being most marked in the Gangetic Plain, the Central Provinces, Chota Nagpur and Berar, in which the precipitation of the period was from three to four times the normal amount. The rainfall was in these areas almost continuous.

The snowfall of the period was excessive in the Western Himalayas and about normal in Afghanistan and Baluchistan.

The mean temperature of the period was relatively much lower in Extra Tropical than in Tropical India, being 1°·8 in defect in the former and 1°·1 in excess in the latter area.

The temperature conditions of the period were directly related to the following abnormal features:—

(1) The number of cold weather storms was greater than usual; the storms, however, were for the most part feeble.

(2) The rainfall of the period was in general excess and the snowfall normal in amount on the hills to the west of India and in excess in the Western Himalayas.

The following gives a summary of the leading features of the temperature conditions during the period:—

(1) The mean maximum or day temperature was in January in defect to the west and north of a line running from Mangalore along the Western Ghats to near Bombay, thence about due east to Vizagapatam, thence north-east to Silchar, and thereafter south-east through Burma to near Fort Stedman. The defect was greatest and exceeded 6° in a large area, including the greater part of the Indo-Gangetic Plain, Chota Nagpur and the east of the Central India Plateau and from that diminished slowly to the west and rapidly to the south and east. Temperature was in moderate to considerable excess over the remainder of India, the excess being greatest and exceeding 4° in the Madras Deccan. The mean day temperature was in February in moderate to considerable defect over by far the greater part of the country; it was in slight excess only in the extreme south of the Peninsula, in East and North Bengal, Assam and Upper Burma. The defects were greatest and exceeded 4° in the East Satpuras and the east of the Central India Plateau and the east of Hyderabad. In the region indicated by the stations Bhuj and Rajkot the mean day temperature was from 4° to 6° lower than usual. The following gives comparative data for the various provinces:—

Area.	Variation of mean maximum temperature from normal in		
	January.	February.	Cold weather period, January and February.
Burma	+0°·7	+0°·3	+0°·5
Assam	—1·5	+2·3	+0·4
Bengal	—2·8	+0·7	—1·1
Orissa	—3·5	—2·0	—2·8
Bihar	—4·9	—1·9	—3·4
Chota Nagpur	—6·6	—4·6	—5·6
United Provinces of Agra and Oudh	—6·2	—3·1	—4·7
Punjab	—4·9	—1·9	—3·4
Sind	—3·9	—2·0	—3·0
Rajputana	—4·9	—2·7	—3·8
Gujarat	—2·9	—0·6	—1·8
Central India	—5·2	—3·9	—4·6
Central Provinces	—3·6	—4·6	—4·1
Berar	—1·6	—3·6	—2·6
West Coast	—0·5	—0·5	—0·5
Bombay Deccan	+1·5	—3·5	—1·0
Mysore	+4·0	+0·5	+2·3
Madras Coast	+1·6	—0·2	+0·7
Madras Deccan	+2·9	—2·0	+0·5
South India	+2·5	+1·1	+1·8

The variations were larger than usual and were such as accompany a more disturbed cold weather than usual. The most important variation was a large defect over the area represented by the following stations :—

Station.	Variation of mean maximum temperature from normal in January.	February.	Cold weather period, January and February.
	°	°	°
Leh	−11·4	−12·3	−11·9
Nowgong	−7·3	−6·0	−6·7
Benares	−7·2	−5·3	−6·3
Murree	−7·9	−4·1	−6·0
Chaibassa	−7·2	−4·3	−5·8
Delhi	−7·6	−3·9	−5·8
Ludhiana	−6·7	−4·6	−5·7
Gaya	−6·3	−5·0	−5·7
Jhansi	−6·9	−4·2	−5·6
Sutna	−6·8	−4·1	−5·5
Hazaribagh	−6·0	−4·8	−5·4
Allahabad	−6·7	−3·9	−5·3
Hoshangabad	−5·8	−4·7	−5·3
Chakrata	−6·5	−3·5	−5·0

(2) The mean minimum or night temperature was in January about normal in Extra, Tropical and in moderate to considerable excess in Tropical India, the excess exceeding 6° at Kurnool and at Mergui and exceeding 4° over the Madras Deccan, the south-east of the Central Provinces and in the East Coast Central, as also in Lower Burma. In February the night temperature was in moderate to considerable defect in Kathiawar and Sind, the defect exceeding 7° at Bhavnagar and exceeding 5° at Hyderabad, Bhuj and Rajkot. The defect in the night temperature in that area in February was even more marked than the defect in the day temperatures. In this month, night temperatures were in defect over the region lying to the west of a line passing from the West Coast near Goa and Ratnagiri first north-eastwards to Seoni, thence north-west to Ajmere and thence about due north to near Rawalpindi, and was in excess over the greater part of the remainder of India. The excess in the night temperature was most marked in South India and in Burma, the excess in the former area amounting to 7° at Salem and exceeding 4° over parts of the Madras Deccan and the Madras Coast, and in the latter exceeding 4° over the area defined by the stations, for which data are given below :—

Station.	Variation of mean minimum temperature from normal in February.
	°
Bassein	+6·9
Yamethin	+6·2
Rangoon	+5·2
Thayetmyo	+5·1
Toungoo	+5·0
Taunggyi	+4·3
Minbu	+4·1

The excess was over 6° only at Yamethin and Bassein. The variations of the night temperatures in other parts of the country were in general small and unimportant.

The following gives comparative data for the various provinces for the cold weather period :—

Area.	Variation of mean minimum temperature from normal in January.	February.	Cold weather period, January and February.
	°	°	°
Burma	+3·0	+4·0	+3·5
Assam	−0·7	+2·2	+0·8
Bengal	−0·3	+2·5	+1·1
Orissa	+0·8	+0·5	+0·7
Bihar	+1·0	+3·4	+2·2
Chota Nagpur	+0·6	+3·5	+2·1
United Provinces of Agra and Oudh	+0·8	+1·7	+1·3
Punjab	+0·6	−0·1	+0·3
Sind	+0·6	−4·5	−2·0
Rajputana	−0·5	−0·6	−0·6
Gujarat	−0·8	−3·2	−2·0
Central India	+0·1	+0·9	+0·5
Central Provinces	+1·5	+1·2	+1·4
Berar	+1·5	−0·7	+0·4
West Coast	+2·0	+1·0	+1·5
Bombay Deccan	+2·2	−1·1	+0·6
Mysore	+4·1	+4·0	+4·1
Madras Coast	+3·7	+2·9	+3·3
Madras Deccan	+5·2	+4·1	+4·7
South India	+5·3	+5·1	+4·2

(3) The variations of the mean temperature in both months of the cold weather period exhibited features similar to those which characterized the variations of the mean day and mean night temperatures, *viz.*, deficient temperatures over Extra-Tropical and excessive temperatures over Tropical India in January and excessive temperatures in February in the part of the Peninsula south of Lat. 16° N. and in North-East India and Burma and deficient temperatures elsewhere. The excess was in January most marked over the Madras Presidency, where it generally exceeded 4°, and the defect, most marked in the central districts of the United Provinces where it exceeded 3°. In February the variations from normal were in general less striking; they exceeded 4° only in Sind and Kathiawar and at Salem in the Madras Presidency.

The following gives comparative data for the various provinces:—

Area.	Variation of mean temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Burma	+1.9	+2.2	+2.1
Assam	−1.1	+2.3	+0.6
Bengal	−1.6	+1.6	0
Orissa	−1.4	−0.8	−1.1
Bihar	−2.0	+0.5	−0.6
Chota Nagpur	−3.0	−0.6	−1.8
United Provinces of Agra and Oudh	−2.7	−0.7	−1.7
Punjab	−3.2	−1.0	−1.6
Sind	−1.7	−3.3	−2.5
Rajputana	−2.7	−1.7	−2.2
Gujarat	−1.9	−1.9	−1.9
Central India	−2.6	−1.5	−2.1
Central Provinces	−1.1	−1.7	−1.4
Berar	−0.1	−2.2	−1.2
West Coast	+0.8	+0.3	+0.6
Bombay Deccan	+1.9	−2.3	−0.2
Mysore	+4.1	+2.3	+3.2
Madras Coast	+2.7	+1.4	+2.1
Madras Deccan	+4.1	+1.1	+2.6
South India	+2.9	+3.1	+3.0

The following gives a brief statement of the more important cool waves of the period:—

(1) ***Cold wave of the 13th to 21st January.***—The mean temperature was generally low during the greater part of the first fortnight of the month in Kathiawar and Gujarat. But it rose above normal in Baluchistan and Sind on the 10th and 11th with the advance of the fourth storm of the month (10th—15th). The depression entered Sind on the morning of the 12th and subsequently advanced eastwards, giving heavy rain on the plains and exceptionally heavy snow on the hills. A cold wave followed in the rear of this disturbance and reduced temperatures very considerably below normal as it passed eastwards. The reduction of temperature was greatest in Baluchistan and Sind on the 15th when the mean temperature was more than 16°, and 11°, below normal in Baluchistan and Sind, respectively. The crest of the cold wave lay over Rajputana on the 17th, Rajputana and the United Provinces on the 18th, Central India on the 19th, and the Central Provinces, Bihar and Bengal on the 20th, and reached Assam on the 21st. In the cold wave, as is usual in January, the reduction of temperature was more marked in the day, than in the night, temperature.

The following gives temperature variation data for the areas traversed by the wave:—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of								
	13th January.	14th January.	15th January.	16th January.	17th January.	18th January.	19th January.	20th January.	21st January.
	°	°	°	°	°		°	°	°
Baluchistan	−8.4	−13.2	−16.3	−7.3	−0.6	−3.2	+2.3	+1.9	−4.8
Sind	−0.5	−2.7	−11.7	−7.7	−6.9	−5.9	−1.0	+1.1	+2.4
Punjab	+0.2	−1.3	−5.0	−4.5	−5.3	−4.6	−2.4	−2.1	−1.4
United Provinces of Agra and Oudh.	+0.2	−0.7	−3.9	−4.4	−4.2	−5.0	−5.2	−4.3	−4.0
Rajputana	+3.0	+4.1	−8.0	−5.8	−6.9	−7.4	−6.5	−1.4	−1.9
Central India	+2.9	+4.6	−4.1	−8.1	−5.6	−5.9	−8.9	−5.5	−1.3
Berar	+5.3	+4.1	−1.5	−6.4	−1.3	+0.2	−7.6	−7.5	−4.5
Central Provinces.	+2.2	+3.1	−0.4	−5.0	−2.4	−1.5	−7.4	−7.5	−4.0
Orissa	−5.5	−4.8	−3.5	−0.6	−0.3	+1.6	−3.3	−6.3	−5.7
Chota Nagpur	−6.3	−3.8	−3.5	−3.1	−3.1	−3.4	−7.6	−7.3	−6.2
Bihar	−2.7	−1.4	−1.6	−3.2	−3.6	−3.0	−2.6	−5.5	−3.9
Bengal	−3.7	−1.9	−0.3	−0.1	−1.2	−0.8	−2.5	−5.7	−5.0
Assam	−3.3	−3.0	−1.2	−1.4	−1.8	−3.9	−0.7	−3.4	−3.4

(2) ***Cold period from the 5th to the 23rd February terminating in the cold wave of the 24th to the 28th.***—The temperature conditions during February present several points of interest. At the beginning of the month the temperature exceeded the normal everywhere, the excess being most marked in Gujarat Khandesh and Rajputana. Excessive temperatures persisted in that area till the 4th or 5th, when the dry northerly or north-westerly winds, which sprang up in

Upper Sind as a depression passed from the Gulf of Cambay eastwards over North India, reduced humidity considerably in Upper Sind on the 4th and by the 5th had brought a very considerable reduction of temperature to Gujarat and Khandesh.

The fall of temperature in Gujarat on the 5th was most marked at Veraval, where the maximum temperature on that day was, if correct, 17°·4 below the value recorded on the previous day. Meantime temperature had remained steady or had risen in Upper Sind and the South-West Punjab. By the 6th, the area of low temperature had extended slightly and included the whole of Sind and Gujarat and parts of Khandesh and Rajputana. The unusual feature in the temperature condition was the extension of low temperature from a centre in Gujarat instead of, as is usual after the eastward retreat of cold weather storms, from Baluchistan and the North-West Frontier. The centre of low temperature intensified on the 7th and 8th without changing its position, the area of low temperature at the same time extending. It is to be noted that coincident with the fall of temperature in Gujarat and Sind, the humidity also decreased more or less briskly.

The following gives data:—

Station.	6th February.			7th February.			8th February.		
	Variation from normal of mean daily temperature.	Change in past 24 hours of		Variation from normal of mean daily temperature.	Change in past 24 hours of		Variation from normal of mean daily temperature.	Change in past 24 hours of	
		Temperature.	Relative humidity.		Temperature.	Relative humidity.		Temperature.	Relative humidity.
Veraval . .	−3°·3	−2°·0	−6	−5°·1	−1°·7	−3	−6°·7	−1°·8	−11
Bhavnagar Para	−3·9	−4·0	−11	−6·3	−2·5	−1	−7·4	−1·8	−18
Surat . .	−4·8	−5·8	−4	−7·0	−2·4	+1	−6·0	+1·0	−24
Ahmedabad .	−5·9	−4·8	−11	−8·6	−2·5	−5	−6·5	+1·7	−13
Malegaon .	+0·3	−5·2	+12	−3·9	−4·2	−24	−6·5	2·5	−9
Ahmednagar .	+1·6	−2·7	+21	−3·6	−5·4	−12	−4·0	−0,2	−30

The unusual position of the centre of low temperature after the passage of this storm is probably to be associated with the unusual southerly course of the depression. Instead of passing in an east-south-easterly direction from Upper Sind or the South-West Punjab, it apparently passed in a direction a little north of east from the Gulf of Cambay, at the same time giving rise to a secondary depression in the Punjab, which persisted from the 4th to the 6th and gave moderate rain over the greater part of the east and submontane regions of the Punjab, and of the United Provinces. After this depression had passed off, anti-cyclonic conditions were established over Upper India. These conditions were more marked in Lower Sind and Gujarat than in the north of the Punjab, where pressure was very uniform and winds light with numerous calms. In Gujarat, on the other hand, gradients were unusually steep for northerly winds. It seems, therefore, not improbable that an anti-cyclonic system with descending currents of air prevailed over the north-west part of Rajputana and Upper Sind, sufficiently pronounced to check the usual northerly drift of air over the Punjab and give general calms, while at the same time accentuating the flow to the south of the anti-cyclonic area.

Station.	7th February.				8th February.			
	Wind direction.		Wind velocity.		Wind direction.		Wind velocity.	
	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.
Rajkot . . .	W	N 24° E	6	6	N W	N 34° E	4	5
Veraval . .	N E	N 24 E	9	8	N N E	N 20 E	9	7
Bhavnagar Para .	W	N 71 W	6	5	W	N 36 W	5	5
Bhuj . . .	S W	S 23 E	7	6	W	N 14 W	5	6

This hypothesis of a descending current over Upper Sind and West Rajputana, if correct, affords a satisfactory explanation of the fall in humidity and temperature over the areas to the south and also throws some light on the fact that the low temperatures did not as usual advance from the North-West Frontier areas. For if the usual drift over the Punjab from the north was checked by these conditions the flow of cool air from the Baluchistan plateau and hill regions of the North-West would also cease, and hence the fall of temperature in the North-West and West Punjab would be less than usual.

Possibly also this feature may have been related to the fact that the precipitation accompanying the storm on the Baluchistan and Afghan Hills was practically *nil*. The temperature in the areas to the west would thus be less reduced than usual, and the cooling in the adjacent plains would be slight.

By the 9th a second depression had passed into the Peninsula from near the Gulf of Cambay or even farther south, which during the next two or three days drifted slowly in a direction almost due east over the head of the Peninsula, the track of its centre lying roughly along Lat. 20 N. A secondary depression which developed over the Madras Coast on the 12th, seemed to persist till the 16th or 17th, *i.e.*, some days after the disappearance of the original depression on the 13th or 14th. The secondary depression was most marked on the 13th when readings on the Madras Coast South were more than a tenth of an inch below normal.

The appearance of a depression over Madras at this season is very unusual and seems to have been more or less directly related to the abnormal temperature conditions of the month in that area.

With the advance over the head of the Peninsula of the depression from the North Bombay Coast, temperature rose slightly over North India and briskly in the area where temperature was lowest during the preceding days, the rise being probably accentuated by the advance across the Punjab of a depression which shewed near Mooltan on the 11th and by the 12th had passed east to the foot of the Simla and Mussooree hills. On the 12th, as the Punjab depression was passing off and as the Madras depression was deepening, temperature again fell in Upper Sind and Gujarat, the fall extending farther south than usual. On the 13th two cold centres, each with defects from the normal exceeding 10°, appeared, one over Rajputana, the other extending from Khandesh to the Bombay Deccan as far south as Belgaum. The former was directly related to the eastward movement of the Punjab depression, the latter to the development of the Madras depression. The rise of pressure in the rear of the former depression coincided with the fall of pressure over the south-east of the Peninsula accompanying the development of the latter depression, and thus gave very unusual gradients for north or north-westerly winds over the greater part of the Deccan as far south as Mysore, and led to a much greater extension of cool north winds than obtains, when a rise of pressure in North India does not coincide with a fall in the South.

On the 13th temperature was unusually low in Bengal, where, as the primary Bombay depression passed eastwards, moderate general rain had fallen.

On the 14th a rapid rise of pressure in North India gave slight gradients to the north of Rajputana and increased the gradients towards the south. As at this time there were indications of disturbed conditions on the North-West Frontier, temperature was rising in the extreme north, but was falling over almost the whole of the remainder of India in consequence of the extension of northerly winds over the Peninsula. The abnormal defect in the mean at Ahmednagar was over 12°, and much lower temperatures than usual were shewn as far south as Mangalore, Kurnool and Masulipatam. At the same time the cold wave in Upper India had moved east to the centre of the United Provinces and the extended rainfall in North-East India had caused a very considerable reduction of temperature in that area and restricted the area of excessive temperature in the south of the Peninsula and diminished the intensity of the hot area in Burma.

These conditions persisted with little change during the next two days, during which pressure rose very generally over India, except in the extreme south, and thus accentuated the abnormal gradients for dry northerly winds over the country. On the 16th pressure was in large excess in North India (Gorakhpur +·155″) and about normal or in slight defect in the south of the Peninsula. On this date, however, the approach of another depression began to shew over Gujarat and gradients for north-east winds became much steeper. In consequence of the advance of these cool winds a cold area re-appeared over Gujarat, where temperature was falling slightly, although elsewhere temperature was rising steadily. Pressure was on this day remarkably uniform over the north of Rajputana and the Central Punjab, where a faint irregular cyclonic circulation was shewing. At the same time the isobars were unusually close together over the head of the Peninsula between Lat. 20° and 24° N, where they lay almost along the parallels of latitude. Consequently unusually regular easterly winds obtained over the whole of this belt from Gujarat to Bengal.

By the 18th the depression from the North Bombay Coast had passed over Khandesh and by causing a rush of south winds over the Peninsula had raised the temperature there very considerably. Similarly a fall of temperature occurred over Gujarat and Sind caused by the northerly winds in the north-west quadrant of the depression. On this day the depression gave general rain to the greater part of Upper and Central India and over parts of the Peninsula, so that on the 19th and 20th temperature fell generally over the greater part of the country as anti-cyclonic conditions were re-established. On the latter date pressure was normal on the South Konkan Coast and about one-fifth of an inch in excess in Gujarat, so that gradients were steep for north winds over the whole of the West Coast, and especially in Gujarat, temperature being from 8° to 10° lower than usual in that area. Temperature was in almost as great defect in the West Satpuras, where northerly or north-easterly winds held steadily. By the 21st pressure conditions had altered considerably. The advance to Central Rajputana on that day of a depression, the first indication of which shewed at the stations of Upper Sind on the 20th, caused a fall of pressure in Rajputana of nearly a quarter of an inch and produced a small centre of low pressure near Jodhpore. This distribution of pressure did not check the northerly winds in Gujarat, where they still held with considerable steadiness, and where, consequently, temperature remained in considerable defect.

By the 22nd the depression had moved east to near Allahabad and had given rise to a moderately deep secondary depression in the Punjab. A large anti-cyclonic area at this time lay over Rajputana, Khandesh and the west of the Central Provinces, over the southern areas of which both temperature and humidity had fallen very rapidly. The following gives data:—

Station.	22nd February.		
	Variation from normal of mean daily temperature.	Change in past 24 hours of	
		Temperature.	Relative humidity.
	°	°	
Goa	— 5·9	— 2·5	—11
Mormugao	— 3·7	— 2·6	—13
Ratnagiri	— 6·0	— 5·8	—16
Bombay	—10·6	—11·2	— 3
Belgaum	— 4·2	— 5·5	—10
Bijapur	— 2·1	— 2·5	—48
Sholapur	— 2·2	— 1·5	—32
Poona	—11·2	— 7·2	—11
Ahmednagar	— 8·8	— 7·3	—5

Station.	22nd February. Variation from normal of mean daily temperature.	Change in past 24 hours of: Temperature.	Relative humidity.
	°	°	
Malegaon	—16·0	—14·4	—15
Surat	—13·8	— 7·6	—62
Akola	—13·6	—12·2	—41
Amraoti	—14·4	— 7·3	— 43
Khandwa	—14·1	—10·2	—25
Hoshangabad	—11·2	— 7·5	—22
Nagpur	—10·0	— 1·5	—47
Seoni	— 9·0	— 2·0	—47
Pachmarhi	—11·2	— 7·7	—48
Jubbulpore	— 6·9	— 2·7	—46
Saugor	— 9·7	— 4·0	—41

It may be noted, however, that over Gujarat and parts of Rajputana, although temperature had fallen, humidity had increased, a consequence probably of the disturbed conditions to the north. The following gives data.—

Station.	22nd February. Variation from normal of mean daily temperature.	Change in past 24 hours of: Temperature.	Relative humidity.
	°	°	
Ahmedabad	—13·0	—4·2	—1
Rajkot	—16·5	—5·7	+12
Veraval	— 9·2	—3·8	+10
Dwarka	...	—8·7	+10
Bhavnagar Para	—13·1	—6·1	+ 3
Bhuj	—12·8	—3·5	+10
Deesa	—16·3	—8·3	+13
Mount Abu	—17·4	—7·7	+36
Bikaner	— 9·9	—2·7	+23
Jodhpur	...	—5·6	+15
Udaipur	...	+1·0	—3
Ajmer	— 9·3	—2·0	+13
Sambhar	—10·3	—3·2	+35
Jaipur	—12·4	—3·5	+49

On the 22nd the mean temperature was over 1·6 below normal in the area indicated by Deesa and Rajkot and at Malegaon, and temperature was lower than usual over the whole of India, except the East Coast and in Burma and Assam, where slight to moderate excesses still shewed.

A very rapid rise of pressure followed on the 23rd, greatest in the extreme north-west, where it amounted to nearly one-third of an inch, pressure rising at the same time to an excess over normal of one-fourth of an inch. During the remaining days of the month this anti-cyclonic distribution spread slowly eastward, diminishing in intensity as it passed, till by the 28th it had practically disappeared.

With the eastward movement of the centre of high pressure, the area of low temperature also advanced. On the 23rd its centre covered Gujarat, Khandesh and the West Satpuras. By the 24th it had moved east to the head of the Peninsula. On the 25th it covered the East Satpuras and outlying areas of low temperature shewed over Central Bengal. On the 26th the centre lay over Chota Nagpur and on the 27th it covered South-West Bengal, low temperature shewing as far east as Burma, and on the 28th its centre lay apparently over the head of the Bay. By the 28th, however, it had diminished very considerably in intensity, the greatest defect being only about 8° or 9°, whereas during the most of its previous course the defect at the centre of the area of low temperature had remained steadily about 12°.

With the transfer eastwards over the head of Peninsula of the area of low temperature during the last five days of the month, the temperature rose slowly but steadily on the west of the Peninsula, but by the end of the month the mean temperature there was only from 2° to 4° in excess of normal.

The above discussion seems to establish that the very abnormal temperature conditions prevailing over India during the greater part of the month of February were directly related to the following abnormal features:—

(1) The tracks of several of the storms of the month were much more southerly than usual.

(2) The prevalence of marked anti-cyclonic conditions over Rajputana throughout a large part of the month.

(3) The consequent abnormal prevalence of cool dry winds over the regions lying to the south of that area, especially Gujarat and Khandesh.

(4) The development of a depression over Madras, while pressure remained high in North India, a distribution which led to an unusual extension of cool northerly winds over the Peninsula.

II.—The hot weather period.—A series of five cold weather depressions passed over North India during March, but they were with one exception—the storm of the 3rd to the 9th of small importance.

Temperature was lower than usual in the Central Provinces and in Bengal during the first six days of the month, the defect being greatest on the 3rd, when defects exceeding 12° were reported from the east of the Central Provinces. This low temperature was probably in part due to the rainfall in that area accompanying the first storm of the month, which passed over the head of the Peninsula during the first three days of the month, but was, in part, probably also a consequence of the unusually low temperatures in the Central Provinces and Bengal, resulting from the advance of the cold wave at the end of the previous period.

The advance of the second storm of the month over North India during the second-half of the first week was preceded by a warm wave, which by the 7th had raised the temperature in North-East India to about normal. The succeeding cold wave had spread over the whole of North India by the 8th, causing an especially rapid fall of temperature in the Hill and Sub-montane areas adjacent to the central parts of the Gangetic plain. On the following days, the cold wave passed slowly eastwards, and by the 12th had diminished considerably in intensity. It did not, however, pass into Burma. From the 12th to the 17th the weather was more settled and temperature rose steadily in the west of India and in the Punjab, but remained more or less considerably below normal in North-East India and along the East Coast, where dry cool westerly winds were, in consequence of the persistence of anti-cyclonic conditions over the central parts of the country, holding with unusual steadiness. From the 18th the weather again became disturbed and temperature rose rapidly as these conditions spread eastwards over the country. By the 20th the warm wave had spread into North-East India and the low temperatures which had prevailed in that area from about the 25th of February practically disappeared. On this day the temperature was in excess over nearly the whole of India, the excess being greatest in the North-West Punjab, where it exceeded 8°, and being about normal only along the coast areas and in Burma. The light to moderate showers, however, which were received in Baluchistan and the West Punjab on the 23rd, caused a very rapid fall of temperature in these areas and in Sind on that date. At Dera Ismail Khan the maximum temperature on the 23rd was 21° below normal, and both day and night temperatures fell considerably below normal in Lower Sind and Cutch. During the next six days the cold wave moved steadily eastwards reaching Bengal on the 28th or 29th, and thereafter slowly diminishing in intensity had practically disappeared by the 30th or 31st.

Meanwhile the warm wave preceding the last storm of the month was advancing across North India and on the 31st was giving mean temperatures more than 8° above normal in Rajputana.

On the 1st of April a feeble low temperature wave was appearing in the north-west of the Punjab, but it produced little effect on the temperature which remained till the 5th or 6th generally excessive over the west of the country and generally deficient over the east. Snow fell in the North-West Frontier on the 6th and 7th and showers in the Deccan and central parts of the country and in Assam. Consequently temperature fell below normal in these areas.

These three cool centres afterwards coalesced and on the 8th and following days a large area of low temperature shewed over the central parts of the country. The deficiency, however, at no time much exceeded 4°. By the 11th or 12th this area of low temperature had practically disappeared.

Temperature rose on the 11th in the Western Desert, as another disturbance approached from the west. But the rainfall in these areas and in the North-West Himalayas, which accompanied the disturbance, reduced the temperature considerably.

On the 13th pressure gave way very rapidly in Further Kashmir and heavy weather with snowstorms was reported from that area on the 13th and 14th. The very rapid fall of temperature which followed extended over the greater part of the Punjab and the United Provinces. Temperature again fell very rapidly in the extreme north of India on the 17th in consequence of disturbed weather with snow storms in the mountain ranges to the north. On this date mean temperatures in the extreme north of India were over 14° in defect. During the succeeding days the cool wave spread eastward over the country and by the 19th had reached Deltaic Bengal. A fresh fall of temperature occurred on the 20th in the extreme north of India as another depression in that area gave snow to the higher ranges to the north and in Further Kashmir. Extremely low temperatures, relatively to normal, subsequently extended eastwards, reaching Burma on the 23rd. By the 24th, temperature was in considerable to large defect over the whole of Extra-tropical India, the greatest deficiencies being shown in Upper Burma and in the Upper Sub-Himalayas, in both of which areas the mean temperatures were 10° below normal. A gradual rise of temperature followed and by the 27th temperature was only in slight defect in Upper and North-East India and was in considerable excess in Cutch. On the 25th the first indications of the formation of a low pressure area shewed off the Malabar Coast and weather became slightly disturbed in the south of the Peninsula. During the next three days, as it moved up the Arabian Sea, disturbed conditions extended over the greater part of the Peninsula and by the 29th the accompanying precipitation had reduced temperature very largely below normal over the greater part of the Peninsula. The greatest defect from normal was shewn in Berar on the 29th and over the East Satpuras on the 30th, the mean temperature in each area being over 12° below normal.

During the first three days of May temperature remained in moderate to large defect in the centre and east of the Peninsula, but was in large excess in North-West India, the excesses in the mean temperature ranging from 9° to 12°. On the 4th a storm of considerable intensity passed from the Arabian Sea over the Mekran Coast into Baluchistan and during the succeeding days passed in a north-easterly direction over the Punjab to the North-West Himalayas, giving heavy rain in its track and snow in the higher ranges. It was followed by a cold wave of unusual intensity which reduced mean temperatures over 16° below normal in Upper Sind on the 5th and over 18° below normal in the north of the Punjab on the 6th and 7th. The reduction of temperature was, as is usual during heavy rainfall in the hot weather, most marked in the maximum or day temperatures. The following gives data for the more

remarkable variations of the day temperature from normla during this period :—

Date.	Station.	Maximum temperature of date. Actual.	Normal.	Variation of actual from normal.
		°	°	°
5th May	Chaman	63·3	93·5	—30·2
	Jacobabad	81·4	108·9	—27·5
	Hyderabad	85·1	106·4	—21·3
	Quetta	58·7	80·0	—21·3
6th „	Montgomery	77·2	104·4	—27·2
	Rawalpindi	70·0	96·3	—26·3
	Peshawar	70·2	96·0	—25·8
	Sialkot	77·5	101·8	—24·3
	Murree	53·2	75·4	—22·2
	Srinagar	57·9	79·0	—21·1
	Ludhiana	82·6	102·6	—20·0
7th „	Montgomery	84·0	109·0	—25·0
	Khushab	79·7	104·2	—24·5
	Rawalpindi	73·0	96·4	—23·4
	Sialkot	81·5	101·9	—20·4
	Peshawar	76·1	96·1	—20·0

From the 8th onwards temperature rose steadily and by the 11th was practically normal over North-Western India and in considerable to large excess over North-East India, where day temperatures as much as 13° above normal were reported on the 11th.

Fine weather obtained generally in North-Western India from the 9th to the 14th, but from the 15th to the 17th the weather again became disturbed in that area and fairly general rain was received at Indian stations and snow in Kashmir on the 17th. On this date temperature fell rapidly in the extreme north of India, but the fall did not extend beyond the Punjab and during the succeeding days the abnormally low temperatures gradually passed away. From the 20th to the 22nd conditions were again disturbed in the North Punjab and Kashmir and temperature again fell more or less considerably below normal. As at the same time heavy thundershowers caused a considerable reduction of temperature in Bengal and Assam, temperature was on the 23rd from 2° to 9° below normal in a belt of country stretching from the West Punjab along the Gangetic Plain to East Bengal.

A feeble depression, which formed in the east of the Bay between the 21st and 23rd and thereafter drifted northward and crossed the Arakan Coast near Akyab on the 25th, gave general and moderately heavy rain to Burma and reduced temperatures in that area from moderate excess on the 22nd to moderate defect on the 25th. During the remainder of the month the temperature variations were irregular and mainly determined by the incidence of thundershowers. Temperature was, however, generally excessive in Western India, due chiefly to excessive day temperatures.

The following summarizes the more important temperature conditions of the period.

(1) Day temperatures were in moderate to considerable excess throughout the period in Sind, Rajputana, and to a less extent in Gujarat. They were also in excess in Bengal and Assam, the excess in that area being most marked in March. The following gives data :—

Area.	Variation of mean maximum temperature from normal in March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Sind	+3·7	+1·9	+1·6	+2·4
Rajputana	+1·4	—0·1	+1·8	+1·0
Gujarat	+2·2	+0·9	—0·4	+0·9
Bengal	+1·6	+1·8	+1·9	+1·8
Assam	+2·9	+0·7	+1·7	+1·8

Day temperatures were in general defect on the mean of the period in the Punjab, the Central parts of the Gangetic Plain, the Central Provinces and the greater part of the Peninsula. The following gives data :—

Area.	Variation of mean maximum temperature from normal in March.	April.	May.	Hot weather period, March to May.
	°	°	°	°
Punjab	+0·5	—3·3	—1·0	—1·3
United Provinces of Agra and Oudh.	—2·0	—1·5	+1·1	—0·8
Central Provinces	—3·6	—2·2	+0·4	—1·8
Madras Deccan	—2·0	+0·2	—1·6	—1·1
Mysore	—0·3	+1·3	—0·5	+0·2
South India	—2·1	—1·1	—0·3	—1·2

In other areas the day temperatures did not differ much from normal.

(2) The night temperatures were in general defect throughout the period in the Gangetic Plain and in the Punjab, except during March, when they were in moderate to considerable excess in that area. They were normal or in slight excess throughout the period in the west of the Peninsula. Night temperatures were in moderate defect in North-East India in March and normal or in slight defect in that area in April and May. In Burma night temperatures were generally excessive, especially in Lower Burma

during the period. The only variations from normal which exceeded 4° during the period were the following. The monthly mean minimum temperature exceeded normal by 4° in March only in the Central Punjab, in April in no area and in May in Rajputana, and was less than normal by 4° only in April and then only in Baluchistan and at the foot of the Simla and Mussoorree hills. The following gives data:—

Month.	Station.	Variation from normal of minimum temperature.
		°
March	Chaman	+5·1
	Khushab	+4·1
April	Chaman	−5·6
	Quetta	−5·0
	Umballa	−4·6
	Roorkee	−4·6
May	Ajmer	+4·5

(3) The mean temperature was generally excessive in Rajputana and the South-West Punjab on the mean of the period, and was in moderate defect in the Indo-Gangetic Plain and generally normal elsewhere. Excesses of 4° or over shewed in the mean temperature only in the Central Punjab in March and a similarly large defect only in Baluchistan and the Indo-Gangetic Plain West in April. The following gives data for these areas:—

Month.	Station.	Variation from normal of mean temperature.
		°
March	Khushab	+4·4
	Chaman	+5·4
	Srinagar	+4·0
April	Chaman	−5·2
	Umballa	−4·8
	Roorkee	−4·4
	Rawalpindi	−4·3
	Montgomery	−4·3
	Murree	−4·2
	Leh	−4·1
May	Umballa	−5·3
	Rawalpindi	−4·8

The following gives data for the chief periods of excessive temperature, with the more important high temperatures, during the month of May and till the advance of the monsoon in June.

(1) *The 28th May to the 1st June.*—The following table gives variation data of the mean daily temperature for this period in North-Western India, Berar and the Central Provinces:—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of				
	28th May.	29th May.	30th May.	31st May.	1st June.
	°	°	°	°	°
United Provinces of Agra and Oudh.	+4·1	+2·4	−2·2	+0·5	−3·2
Punjab	+3·4	+3·5	+4·4	+3·0	+2·1
Sind	+1·3	+2·1	+4·8	+3·9	+3·8
Rajputana	+5·8	+5·3	+5·6	+6·4	+5·5
Gujarat	+1·6	+1·1	+2·0	+0·6	+0·6
Central India	+3·7	+5·9	+3·2	+5·1	+3·5
Central Provinces	+3·9	+6·2	+5·2	+1·9	+3·8
Berar	+4·9	+8·1	+9·9	+5·3	+6·1

The highest maximum temperatures registered at the hottest stations in that area were as follows:—

Date.	Station.	Maximum temperature.	Variation from normal.
		°	°
28th May	Ranchi	106·3	+11·9
	Lucknow	113·8	+10·2
	Ajmer	111·9	+7·5
29th „	Khandwa	116·7	+11·2
	Akola	116·0	+10·1
	Lahore	113·6	+7·6
30th „	Khandwa	117·2	+12·2
	Akola	116·4	+11·1
	Mooltan	117·5	+10·2
31st „	Mooltan	118·9	+11·4
	Khandwa	116·2	+11·4
	Akola	115·5	+10·5
1st June	Mooltan	118·0	+10·5
	Jacobabad	124·0	+10·4
	Akola	113·5	+9·1

(2) *The 9th to the 13th June.*—During this period temperature was in very considerable excess over the head of

the Peninsula and in the Gangetic Plain. The following gives variation data for these areas from the 9th to the 13th :—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of				
	9th June.	10th June.	11th June.	12th June.	13th June.
	°	°	°	°	°
United Provinces of Agra and Oudh.	+1·9	+2·9	+5·4	+10·1	+10·0
Bihar . . .	+5·7	+5·7	+5·7	+ 8·1	+ 3·4
Central Provinces . .	+6·9	+8·7	+8·6	+ 4·9	+ 3·4
Orissa . . .	+2·5	+4·8	+7·6	+ 8·9	+ 7·5
Gujarat . . .	+4·6	+8·7	+4·2	+ 1·7	+ 1·2

In this period the highest temperatures of the year were generally recorded. The following gives data :—

Station.	Highest maximum temperature recorded in June, 1901.	Date on which recorded.	Highest maximum temperature recorded in June previous to 1901.	Year in which recorded.
	°		°	
Balasore . . .	112·5	12th June	113·0	1888
Cuttack . . .	111·5	„ „	116·0	1872
Raniganj . . .	113·8	„ „	112·5	1888
Gaya	115·3	„ „	116·2	1878
Hazaribagh . . .	108·1	„ „	109·5	1889
Cawnpore . . .	117·1	11th „	114·1	1897
Lucknow . . .	118·8	12th „	118·0	1873
Allahabad . . .	118·2	„ „	119·8	1878
Benares . . .	117·3	„ „	119·0	1869
Bahraich . . .	114·2	13th „	111·6	1897
Dehra Dun . . .	107·5	„ „	108·3	1890
Ahmedabad . . .	115·4	10th „	116·9	1897
Surat . .	114·0	„ „	109·2	1885
Nowgong . .	115·0	11th „	117·2	1878

(3) *The 19th to the 25th June.*—On the 13th an advance of the monsoon current reduced temperature very considerably over a large part of India and rain continued to fall fairly generally till the 19th, when the moist current retreated. The temperature immediately rose and by the 21st was in very large excess over the central parts of the country. Although between the 22nd and 26th light showers fell in the North-West Himalayas and some snow in Kashmir, the cooling effects of the precipitation did not extend beyond the Punjab, and temperature still continued very high in the Gangetic Plain and over the head of the Peninsula. The following gives data for the region of greatest excess of temperature during this period :—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of						
	19th June.	20th June.	21st June.	22nd June.	23rd June.	24th June.	25th June.
United Provinces of Agra and Oudh.	+6·5	+8·1	+8·2	+7·4	+7·0	+7·2	+6·1
Punjab . .	+6·3	+7·7	+7·4	+6·2	+2·9	+1·3	—0·9
Orissa . .	+3·9	+4·8	+7·4	+7·5	+3·4	+5·5	+6·1
Rajputana .	+7·0	+6·3	+5·3	+4·1	+4·2	+5·3	+5·6
Central Provinces.	+5·8	+4·6	+4·8	+7·1	+6·8	+4·5	+3·4
Central India.	+8·4	+8·7	+8·0	+7·8	+7·5	+6·7	+6·6
Chota Nagpur	+6·6	+6·1	+8·2	+7·0	+7·6	+6·3	+7·1

The following gives data for the highest maximum temperatures recorded on each day of the period :—

Station.	Date.	Maximum temperature.	Variation from normal.
Mooltan	19th June	118·0	+11·8
Sialkot	20th „	118·5	+13·4
Sialkot	21st „	119·0	+14·4
Lahore	22nd „	114·6	+11·0
Cawnpore	23rd „	112·6	+14·2
Allahabad	24th „	113·7	+15·6
Jhansi	25th „	111·3	+12·3

As the disturbance in the Punjab passed away, temperature again rose very high, and from the 27th to the end of the month was in considerable to very large excess over the greater part of the Gangetic Plain and the central parts of the country, as shewn in the following discussion.

(4) *The 27th June to the 6th July.*—The excessive temperatures were chiefly due to the delay in the establishment of monsoon over the interior of the country, the actual temperatures recorded being in no way remarkable. The following gives variation data for every alternate day during the period :—

Area.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of				
	27th June.	29th June.	1st July.	3rd July.	5th July.
Bihar . . .	+1·7	+ 3·8	+ 5·4	+ 4·7	+ 3·8
Chota Nagpur . .	+4·1	+ 5·9	+ 8·2	+ 2·5	+ 6·8
United Provinces of Agra and Oudh.	+7·1	+10·2	+12·1	+ 9·9	+10·9
Punjab . . .	—0·2	+ 6·1	+ 4·8	+ 5·7	+ 7·9
Rajputana . . .	+2·7	+ 6·7	+ 6·2	+10·0	+13·9
Central India . .	+4·7	+ 7·0	+ 7·7	+ 9·5	+10·8
Central Provinces .	+6·3	+ 2·4	+ 3·3	+ 3·7	+ 5·0

The following gives data for the highest maxima recorded on each day of the period:—

Station.	Date.	Maximum temperature.	Variation from normal.
		°	°
Cawnpore	27th June	110·5	+15·5
Cawnpore	28th „	112·0	+17·8
Cawnpore	29th „	113·6	+19·8
Allahabad	30th „	113·7	+18·9
Allahabad	1st July	114·2	+20·2
Roorkee	2nd „	112·2	+18·8
Jhansi	3rd „	111·3	+17·5
Jaipur	4th „	113·2	+18·2
Jaipur	5th „	116·2	+22·2
Jhansi	6th „	113·4	+22·0

As is usual during breaks in the rains or a delay in the advance of the monsoon current, the excesses were in general greatest in the day *temperatures*. The following gives data for the more remarkable variations on each day from 1st to 6th July:—

Date.	Station.	Variation from normal of Maximum temperature of date.	Minimum temperature of date.	Mean temperature of date.
		°	°	°
1st July	Allahabad	+20·2	+12·4	+16·3
	Lucknow	+19·5	+ 9·4	+14·5
2nd „	Roorkee	+18·8	+ 9·0	+13·9
	Jhansi	+17·1	+10·6	+13·9
3rd „	Jhansi	+17·5	+12·6	+15·1
	Agra	+14·5	+ 9·8	+12·2
4th „	Ajmer	+16·8	+10·1	+13·5
	Jhansi	+13·6	+13·1	+13·4
5th „	Jhansi	+19·7	+16·5	+18·1
	Jaipur	+22·2	+13·3	+17·8
6th „	Jhansi	+22·0	+13·6	+17·8
	Jaipur	+18·9	+10·0	+14·5

* On the 7th the winds strengthened on the West Coast and the rainfall extended rapidly northward and thence into the interior, and as at the same time an advance occurred from the Bay area, temperature fell rapidly over the whole country. By this time the monsoon may be considered to have been completely established over the country, hence further consideration of the temperature variations in July will more fitly find place in the discussion of the temperature conditions of the south-west monsoon period.

III.—The south-west monsoon period.—The temperature variations during this period chiefly depend on the amount and distribution of the rainfall. During the monsoon period of 1901 these variations were unusually large in June and July owing to prolonged delay in the establishment of the monsoon over India. The rains began on the West Coast towards the end of the second week of June, or considerably later than usual, and were feeble and intermittent during the remainder of June and during the first half of July. The Arabian Sea current was of about normal strength during the last ten days of July and in August, but was feeble in September and withdrew from Upper India considerably earlier than usual. The Bay current was throughout the first-half of the period slightly weaker and more unsteady than usual and was mainly determined to Burma and North-East India. It was of normal strength in August and gave good rain to Northern India, but was feeble in September. The rains commenced late in the United Provinces and the Punjab, but during the latter half of July and in August were on the whole favourably distributed. They terminated unsually early in September, especially in the western districts. The rainfall of the period was abundant in the West Coast districts south of Bombay, but was deficient over the remainder of the area usually dominated by the Arabian Sea current. The deficiency was large in Khandesh, Rajputana, Gujarat, Kathiawar, Cutch and Lower Sind, moderate in the Central Provinces and slight to moderate in the interior of the Peninsula. The rainfall of the period was favourable over the greater part of North-East India and in Burma.

1. During the first-half of the period temperature was excessive over the greater part of the interior of the country, the excess being most marked in June over the central parts of the United Provinces, where it was more than 6°, and, in July, over Rajputana and Central India, where it ranged from 5° to 6°. As usually happens during hot periods in the monsoon season, the excess was much more marked in the maxima than in the minima temperatures.

The following table gives data in illustration:—

Area.	Mean daily temperature. Actual, June, 1901.	Normal, June.	Variation from normal.
	°	°	°
Orissa	89·1	85·5	+3·6
Chota Nagpur	91·1	86·2	+4·9
United Provinces of Agra and Oudh	94·4	90·3	+4·1
Rajputana	96·2	91·7	+4·5
Gujarat	91·9	88·7	+3·2
Central India	93·7	88·7	+5·0
Central Provinces	92·3	87·8	+4·5
Berar	90·9	86·9	+4·0

The area of greatest excess hence included the Gangetic Plain and Chota Nagpur, East Rajputana, Central India, Gujarat and the Deccan.

The following table gives variation data for the stations in these areas where the excess in the mean temperature was most marked:—

Station.	Variation of mean temperature from normal in		
	June.	July.	Period, June and July.
	°	°	°
Balasore	+5·2	+1·3	+3·3
Hazaribagh	+5·8	+2·4	+4·1
Cawnpore	+6·8	+3·9	+5·4
Jhansi	+6·3	+5·9	+6·1
Jaipur	+5·1	+6·0	+5·6
Bikaner	+5·2	+5·0	+5·1
Ahmedabad	+4·7	+4·1	+4·4
Sutna	+7·0	+5·3	+6·2
Hoshangabad	+5·5	+4·2	+4·9
Deesa	+3·2	+5·4	+4·3
Amraoti	+4·6	+1·4	+3·0

Over the remainder of the country the mean temperature was either normal, or in only slight excess. The following gives data for the areas of least excess:—

Area.	Variation of mean temperature from normal in		
	June.	July.	Period, June and July.
	°	°	°
Burma	+0·9	+0·5	+0·8
Assam	—0·6	+0·1	—0·3
Bengal	+0·3	+0·9	+0·6
Orissa	+3·6	+1·0	+2·3
West Coast	+0·3	+1·0	+0·7
Mysore	+0·5	+0·4	+0·5
South India	+0·5	+0·9	+0·7

2. During the second-half of the period the chief features of the temperature variations were the following:—

(1) Temperature was in moderate excess in August over the North-West Frontier and Indus Valley and North-West Rajputana and in September over East Rajputana, Central India, Gujarat and the Deccan. The following gives data in illustration:—

Area.	Variation from normal of mean temperature in		
	August.	September.	Period, August and September.
	°	°	°
North-West Frontier, Indus Valley and North-West Rajputana.	+2·2	—0·1	+1·1
East Rajputana, Central India and Gujarat.	+0·5	+2·1	+1·3
Deccan	—0·6	+1·7	+0·6

(2) Temperatures were normal or *in only slight* excess or defect in Burma, Assam, Bengal Orissa, Chota Nagpur and the Gangetic Plain. The following gives data in illustration:—

Area.	Variation of mean temperature from normal in		
	August.	September.	Period, August and September.
	°	°	°
Burma	0	+1·1	+0·6
Assam	+0·4	—0·3	+0·1
Bengal	+1·0	+0·4	+0·7
Orissa	+0·4	+0·8	+0·6
Bihar	+0·4	+0·2	+0·3
Chota Nagpur	+0·7	0	+0·4
United Provinces of Agra and Oudh.	+0·3	0	+0·2

IV.—The retreating south-west monsoon period.—At the commencement of the period temperature was more or less excessive everywhere, except in the extreme south of the Peninsula, where during the first week of October the weather was showery. A storm from the Bay passed over South and East Bengal at the end of the first week and the accompanying rainfall reduced the temperature more or less considerably below normal in Burma and Bengal. In North-Western and

Central India temperatures were in moderate to considerable excess from the 6th to the 13th. The following gives data for the region of greatest excess:—

Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of							
	6th October.	7th October.	8th October.	9th October.	10th October.	11th October.	12th October.	13th October.
	°	°	°	°	°	°	°	°
Khandwa .	+7·6	+7·9	+8·9	+6·6	+4·8	+4·6	+6·4	+7·1
Ahmednagar .	+7·3	+5·8	+3·4	+5·7	+3·6	+3·9	+3·0	+3·1
Ajmer . .	+7·0	+4·2	+7·2	+7·1?	+2·7	+1·5	+4·3	+5·7
Neemuch .	+6·0	+5·6	+5·8	+2·8	+2·6	+3·2	+3·3	+3·7
Malegaon .	+6·5	+5·5	+5·1	+4·3	+4·9	+4·2	+5·1	+4·8
Sholapur .	+3·4	+5·1	+3·6	+3·1	+3·5	+2·4	+4·6	+2·8
Bijapur .	+4·8	+5·1	+4·6	+4·7	+3·9	+3·8	+4·8	+4·2?

On the 14th, a depression, which had been developing in the Bay during the previous three days, crossed the East Coast near Waltair and during the next four days marched across the head of the Peninsula to Gujarat thereafter passing out into the Arabian Sea. It gave heavy rain in the Madras coast districts and moderate to light rain in the interior. The rainfall in the Peninsula was chiefly confined to the track of the storm and reduced the temperature only in these areas. With the disappearance of this storm fine weather set in over the greater part of the Indian region. Temperature rose and continued in considerable to large excess over almost the whole country till the end of the month. The following gives data for alternate days during the period for the area of greatest and most persistent excess of temperature:—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of						
	19th October.	21st October.	23rd October.	25th October.	27th October.	29th October.	31st October.
	°	°	°	°	°	°	°
Rajputana	+3·9	+8·2	+4·3	+5·5	+5·5	+6·6	+7·7
Central India . . .	+4·6	+5·4	+5·1	+2·6	+3·8	+4·8	+7·2
Central Provinces . .	+4·8	+5·4	+4·9	+1·4	+2·5	+3·5	+4·2
Berar	+4·4	+5·5	+6·8	+2·1	+2·6	+3·6	+3·1

The following gives the more important features of the temperature variations during October:—

(1) Higher day temperatures than usual over the greater part of Upper India, the head of the Peninsula and the Deccan.

(2) Excessive night temperatures over these areas, but less markedly so than the day temperatures.

(3) Slightly lower day, and slightly higher night, temperatures than usual over Burma and the West Coast, which, with Assam and the East Coast North, were the only areas where the mean temperature of the month was in excess by less than one degree.

During the first-half of November, fine dry weather with high temperatures obtained over the whole of India except in the Peninsula to the south of Lat. 12° N., where the retreating monsoon was giving more or less rain daily. At the beginning of the month, temperature was in greatest excess along a broad belt extending from Sind to the central districts of Bengal. The following table shews the variations from normal of the mean temperature of the day in this area for alternate days:—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of						
	1st November.	3rd November.	5th November.	7th November.	9th November.	11th November.	13th November.
	°	°	°	°	°	°	°
Bengal . .	+3·4	+3·4	+2·2	+1·6	+0·7	+1·4	+0·4
Orissa . .	+4·9	+1·6	+2·0	+4·4	—0·9	+0·8	+4·1
Bihar . .	+5·5	+3·4	+1·4	+1·9	+1·9	+1·9	+1·1
Chota Nagpur.	+5·2	+3·9	+3·1	+2·9	+1·8	+2·4	+2·1
United Provinces of Agra and Oudh.	+4·4	+2·5	+1·7	+1·9	+2·2	+1·6	+1·6
Punjab . .	+4·5	+2·4	+2·3	+2·3	+3·6	+3·4	+2·1
Sind . .	+3·1	+4·4	+2·9	+4·2	+3·9	+2·2	+1·5
Rajputana .	+6·7	+5·5	+5·9	+5·7	+4·9	+2·9	+1·7
Gujarat . .	+4·9	+5·8	+5·7	+3·4	+2·5	+1·9	+0·1
Central India .	+7·0	+4·8	+2·7	+2·1	+1·6	+1·0	+1·2
Central Provinces.	+4·2	+3·6	+1·5	+0·5	—0·4	+1·0	+1·3
Berar . .	+3·8	+3·1	+2·5	+0·6	—0·6	+0·2	+0·8

During the second half of the month, two cyclonic storms advanced from the Bay over the Indian land area. The first formed in the south-west of the Bay about the 10th or 11th and, thereafter advancing north-eastward parallel to the coast, passed into East Bengal and Upper Burma; the other formed in the centre of the Bay on the 22nd or 23rd and gave disturbed weather during the last week of the month in Burma, Bengal, Orissa and Ganjam. The rainfall accompanying the first of the two storms reduced temperature considerably over the East Coast, Bengal, Assam and Burma from the 13th to the 18th. Meanwhile in other divisions the weather was fine with

generally increasing temperature. The following gives data :—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of				
	13th November.	15th November.	16th November.	17th November.	19th November.
	°	°	°	°	°
United Provinces of Agra and Oudh	+1·6	+1·9	+1·7	+2·0	+0·4
Punjab	+2·1	+2·4	+1·9	+1·0	+1·3
Sind	+1·5	+1·5	+2·4	+0·7	+1·7
Rajputana	+1·7	+3·2	+3·2	+2·9	+2·4
Gujarat	+0·1	+4·9	+5·0	+4·2	+4·9
Central India	+1·2	+3·6	+4·4	+4·7	+2·3
Central Provinces	+1·3	+4·0	+3·4	+3·5	+2·4
Berar	+0·8	+5·0	+5·2	+3·9	+4·7
West Coast	+0·8	+1·7	+1·2	+1·6	+3·6
Bombay Deccan	+0·1	+5·1	+7·3	+6·0	+4·3
Mysore	−0·2	+4·1	+5·2	+5·1	+3·4
Madras Deccan	−0·3	+5·0	+7·8	+6·7	+5·3
South India	−0·8	+3·1	+3·9	+2·3	+1·4

The following gives variation data for stations in the hottest area during the 15th, 16th and 17th : —

Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of		
	15th November.	16th November.	17th November.
	°	°	°
Sholapur	+ 5·7	+ 10·4	+ 5·5 ?
Bellary	+ 5·5	+ 10·0	+ 7·5
Bijapur	+ 7·4	+ 9·0	+ 9·3
Kurnool	+ 6·6	+ 8·6	+ 9·1
Surat	+ 9·5 ?	+ 9·5	+ 8·3
Khandwa	+ 8·6	+ 6·5	+ 4·0

During the interval between the two storms, the weather was generally fine and quiet throughout the greater part of India.

The rainfall accompanying the second storm of the month not only produced a marked reduction of temperature in the area of rainfall, but caused a sensible fall over the greater part of North-Western, Central, and Western India. The following gives data to illustrate the low temperatures ruling in Bengal, Assam and Burma at this time :—

Station.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of		
	25th November.	26th November.	27th November.
	°	°	°
Minbu	− 2·5	− 3·8	− 0·8
Yamethin	− 4·5	− 4·8	− 0·5
Kindat	− 3·8	− 4·8	− 1·5
Silchar	− 4·2	− 5·5	− 1·0
Jalpaiguri	− 2·9	− 4·5	− 3·7
Dinajpur	− 2·0	− 3·0	− 3·7
Jessore	− 0·3	− 4·2	+ 0·9
Calcutta	+ 0·3	− 3·3	− 0·1
Burdwan	− 3·1	− 4·3*	− 5·2

During the last two days of the month, the disturbed conditions disappeared, rainfall ceased and the temperature rose generally. On the 30th, temperature was excessive everywhere, except in Bengal and on the West Coast. The following gives data in illustration :—

Province or Division.	Variation from normal of		
	Mean Maximum temperature, 30th November.	Mean Minimum temperature, 30th November.	Mean daily temperature 30th November.
	°	°	°
Burma	+1·7	+2·2	+2·0
Assam	+0·1	+4·3	+3·2
Bengal	−0·6	−2·2	−1·4
Orissa	+0·3	+1·4	+0·9
Bihar	+2·9	−2·0	+0·5
Chota Nagpur	+2·6	+1·5	+2·1
United Provinces of Agra and Oudh	+4·5	+1·9	+3·2
Punjab	+5·5	+2·8	+4·2
Sind	+5·9	+2·7	+4·3
Rajputana	+9·0	+8·2	+8·6
Gujarat	+3·5	−1·1	+1·2
Central India	+6·7	+1·8	+4·3
Central Provinces	+4·0	−0·3	+1·9
Berar	+2·7	−1·3	+0·7
West Coast	−1·6	+1·3	−0·2
Bombay Deccan	+2·1	+6·0	+4·1
Mysore	−0·1	+4·7	+2·3
Madras Coast	−0·4	+4·0	+1·8
Madras Deccan	−3·0	+9·0	+3·0
South India	+1·9	+1·6	+1·8

The mean temperature of the month was in moderate excess over the same areas as in October, the day tempera-

ratures being, as in October, in greater excess than the night temperatures.

The night temperatures were everywhere higher than usual, most markedly so in Burma, where the mean excess was 2°·2. As, however, the day temperatures were int hat area in moderate defect, the mean temperature over Burma was normal or in only slight excess.

The weather during December was, on the whole, finer than usual. The only feature of importance was a slight depression which formed in the south of the Bay on the 6th and three days afterwards crossed the South Coromandel Coast, giving very heavy rain to the coast districts. In Upper India weather was slightly disturbed from the 25th to the 27th, when a depression of the cold weather type gave slight rain and snow to the hills and rain to the sub-montane districts of Northern India.

Day temperatures were, on the mean of the month, in slight to moderate excess over the same areas as in the previous two months, but the excesses were less marked. They were in defect over Burma and Assam and normal in Bengal, Orissa and South India.

The night temperatures were in considerable excess in Gujarat and the Central India Plateau and normal, or in slight to moderate excess elsewhere.

The chief features of the mean temperature conditions of the period were hence the following:—

(1) Temperature differed only slightly from normal, on the mean of the period, in North-Eastern India and Burma, in South India and the West Coast. The following gives data in illustration:—

Area.	Variation of mean temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
Burma	+0·5	+1·0	−0·7	+0·3
Assam	+0·8	+0·1	−0·5	+0·1
Bengal	+1·5	+0·5	+0·2	+0·7
Orissa	+1·7	+0·4	+0·2	+0·8
Bihar	+3·1	+1·1	+0·8	+1·7
Chota Nagpur	+2·6	+1·3	+1·7	+1·9
West Coast	+0·3	+1·3	+1·0	+0·9
Mysore	+0·9	+0·8	−0·2	+0·5
Madras Coast	+1·0	+0·3	−0·5	+0·3
South India	+1·2	+0·1	−0·4	+0·3

(2) Temperature was in moderate to considerable, but decreasing, excess over the remainder of the country. The following gives data in illustration:—

Area.	Variation of mean temperature from normal in			
	October.	November.	December.	Period, October to December.
	°	°	°	°
United Provinces of Agra and Oudh.	+2·5	+2·3	+1·1	+2·0
Punjab	+3·1	+2·3	+1·2	+2·2
Sind	+1·8	+2·7	+1·5	+2·0
Rajputana	+5·0	+4·0	+3·4	+4·1
Gujarat	+1·9	+3·3	+3·3	+2·8
Central India	+4·0	+3·0	+2·7	+3·2
Central Provinces	+2·7	+1·6	+1·5	+1·9
Berar	+3·0	+1·5?	+1·8	+2·1?
Bombay Deccan	+2·8	+2·3	+2·5	+2·5
Madras Deccan	+2·3	+1·9	+1·0	+1·7

The following gives variation data for the stations at which the excess on the mean of the period was greatest:—

Station.	Variation from normal during period, October to December, of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Jhansi	+3·3	+5·0	+4·2
Ajmer	+3·7	+5·9	+4·8
Jaipur	+2·9	+4·3	+3·6
Deesa	+4·5	+5·6	+5·1
Lahore	+4·0	+3·0	+3·5
Sialkot	+3·1	+3·6	+3·4
Khandwa	+6·8	+2·4	+4·6
Saugor	+3·4	+3·9	+3·7
Surat	+5·3	+3·9	+4·6
Ahmedabad	+4·1	+2·8	+3·5
Bijapur	+3·0	+3·2	+3·1

The year.—The following gives variation data for the mean temperature of Extra-Tropical and Tropical India

and also of the whole of India, month by month, during the year 1901 :—

Month.	Variation from normal of mean daily temperature in		
	Extra-Tropical India from Table II.	Tropical India from Table II.	Whole India from Table II.
	°	°	°
January	−2·3	+1·8	−0·3
February	−1·3	+0·4	−0·5
March	+0·3	+0·3	+0·3
April	−0·7	+0·6	−0·1
May	+0·4	+0·2	+0·3
June	+2·1	+1·3	+1·7
July	+1·2	+0·5	+0·9
August	+0·7	+0·1	+0·4
September	+0·2	+1·6	+0·9
October	+3·0	+1·3	+2·1
November	+1·6	+1·0	+1·3
December	+0·7	+0·4	+0·6
Whole year	+0·5	+0·8	+0·6

The most important feature of the mean temperature of the year was the slight excess showing in both Tropical and Extra-Tropical India. In the former area the excess shewed chiefly in January, June, September and October, but vanished at no period of the year ; in the latter area, the mean temperature was in moderate to large defect in the cold weather period and in similar excess during June and July and again in October and November, differing little from normal during the remainder of the year. The mean excess of the year was most marked in the Central India Plateau, the South-West Punjab and Gujarat; for stations in which areas mean variation data are given below :—

Station.	Variation from normal of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Mooltan	+2·0	+1·9	+2·0
Deesa	+2·6	+2·0	+2·3
Ajmer	+1·5	+2·8	+2·2
Jaipur	+1·8	+2·2	+2·0
Sambhar	+2·6	+1·3	+2·0
Jhansi	+1·2	+2·8?	+2·0?
Surat	+2·3	+2·1?	+2·2?
Ahmedabad	+2·9	+1·1	+2·0

The mean temperature of the year was generally below normal at the hill stations in Upper India. The following gives variation data for the Himalayan stations :—

Station.	Variation from normal of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Leh	−3·3	−1·8	−2·8
Srinagar	+1·0	+0·3	+0·7
Cherat	−0·3	+0·4	+0·1
Murree	−1·8	+0·2	−0·8
Simla	−0·9	−0·4	−0·7
Chakrata	−0·9	−0·1	−0·5
Ranikhet	+0·1	+0·5	+0·3
Darjeeling	+0·9	+0·9	+0·9

The following table gives the progressive variation of the mean actual temperature of the past 27 years :—

Year.	Number of stations.	Mean anomaly.	Progressive variation.
		°	°
1875	72	−0·29	
1876	72	−0·08	+0·21
1877	74	+0·17	+0·25
1878	74	+0·62	+0·45
1879	70	−0·13	−0·75
1880	106	−0·13	+0·26
1881	110	−0·01	−0·14
1882	113	−0·11	−0·10
1883	122	−0·48	−0·37
1884	122	−0·61	−0·13
1885	118	−0·29	+0·32
1886	122	+0·08	+0·37
1887	126	−0·23	−0·31
1888	127	+0·36	+0·59
1889	81	+0·86	+0·50
1890	85	+0·13	+0·73
1891	72	−0·03	−0·16
1892	74	+0·66	+0·69
1893	68	−1·33	−1·99
1894	66	+0·11	+1·44
1895	69	+0·35	+0·24
1896	67	+1·30	+0·95
1897	75	+0·90	−0·40
1898	75	+0·65	−0·25
1899	52	+0·78	+0·13
1900	50	+1·17	+0·39
1901	50	+0·63	−0·54

The above shows that the excessive temperatures which have prevailed since 1894 still continue, but to a less marked extent than in 1900.

Atmospheric Pressure.

Full information regarding the barometers in use at Indian observatories and of the methods of reducing the observations and obtaining the mean daily and monthly pressures will be found in the annual reports of previous years (*e.g.*, pages 58 and 59 of the report for 1890) and also in pages 8 and 9 of the monthly review for January, 1901.

In Table II of each monthly review the monthly mean daily pressure (corrected for temperature) is given in the fifth figure column and the variation from the normal in the sixth figure column. The normal monthly mean pressure values were recalculated for all first and second class stations in 1896, data up to 1896 being utilized, and will be found in Table VI of the Annual Summary for that year. The variation data in the monthly reviews for the year 1901 were obtained by a comparison of the actual monthly means with the corresponding normal, published in the Annual Summary for 1896, and the variations of the monthly pressures of all first and second class stations in 1901 are given in Table XIII (below). The figures in the fifth and sixth figure columns of Table II appended to the present Annual Summary, giving data of the mean pressure of the air and its variations from the normal for all first and second class stations, are comparable with the corresponding data of previous years published in the annual reports and summaries.

In the seventh figure column of Table II in each monthly review are given the mean pressures reduced to sea-level and corrected to constant gravity (Lat. 45°). These, it should be noted, are not comparable with the sea-level pressure values of the years 1875—90 as given in the annual reports for those years, for previous to 1891 no correction was made to reduce the monthly pressure means to standard gravity.

In Table I of each monthly review, and also in that appended to the Annual Summary, the pressure data are given for a fixed hour (*viz.*, 8 A.M. local time) of the day. The second figure column in those tables gives the mean 8 A.M. pressures for the month corrected for temperature. In the third figure column are given the variations of the mean 8 A.M. pressures from the normal mean 8 A.M. pressures.

Normal 8 A.M. mean monthly data for the great majority of stations will be found in the Annual Summary of 1894, Tables VII and VIII.

The mean pressure data for the year 1901 will be found under the headings "Pressure" in Tables I and II appended to the present Annual Summary:—

TABLE XIII.—*Comparison of monthly mean pressures in 1901 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	Port Blair	+·024	+·019	+·033	+·012	+·007	+·011	—·012	+·003	+·023	—·011	—·009	+·019	+·010
	Rangoon	—·009	+·010	+·027	+·018	+·001	—·024	—·031	—·033	+·021	—·038	?	?	?
	Diamond Island	—·005	—·001	+·022	—·002	—·017	—·024	—·028	—·027	+·021	—·045	—·016	+·003	—·010
	Akyab	—·003	+·002	+·023	—·002	—·003	—·018	—·024	—·039	+·040	—·044	—·016	+·009	—·006
Bengal and Orissa	Chittagong	+·020	+·014	+·031	—·008	—·011	—·023	—·035	—·056	+·025	—·055	—·015	+·004	—·009
	Calcutta (Alipore)	+·034	+·045	+·058	—·006	+·020	—·013	—·011	—·049	+·044	—·041	—·024	+·015	+·006
	Saugor Island	+·027	+·034	+·061	+·003	+·023	—·010	—·016	—·045	+·054	—·040	—·027	+·015	+·007
	False Point	+·015	+·028	+·054	—·001	+·004	—·017	—·032	—·053	+·048	—·047	—·037	+·009	—·002
Gangetic Plain and Chota Nagpur.	Hazaribagh	+·019	+·040	+·060	+·002	+·002	—·016	—·014	—·050	+·056	—·029	—·016	+·011	+·005
	Darbhanga	+·023	+·025	+·064	—·011	0	—·025	—·011	—·040	+·039	—·060	—·020	+·007	0
	Allahabad	+·026	+·032	+·059	—·005	—·011	—·052	—·041	—·059	+·058	—·059	—·035	0	—·007
Upper Sub-Himalayas.	Dehra Dun	+·015	+·039	+·058	+·001	—·002	—·034	—·017	—·033	+·040	—·039	—·015	+·013	+·002
	Roorkee	+·026	+·046	+·073	+·016	+·012	—·031	—·006	—·025	+·045	—·039	—·015	+·014	+·009
	Meerut	+·016	+·032	+·058	—·002	—·003	—·045	—·023	—·041	+·036	—·048	—·034	+·005	—·004
	Lahore	+·019	+·034	+·058	+·019	+·017	—·016	—·007	—·050	+·046	—·043	—·024	+·012	+·005
	Ludhiana	+·027	+·045	+·067	+·025	+·019	—·022	—·003	—·036	+·044	—·035	—·008	+·022	+·012

TABLE XIII.—*Comparison of monthly mean pressures in 1901 with the averages of past years*—contd.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
NORTH-WEST FRONTIER, INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Peshawar	+·010	+·028	+·032	+·020	+·026	+·021	−·008	−·064	+·041	−·049	−·033	+·008	+·004
	Jacobabad	+·014	+·038	+·035	+·008	−·011	−·010	−·014	−·057	+·051	−·044	−·019	+·011	0
	Kurrachee	+·021	+·053	+·034	−·012	+·017	+·004	+·011	−·028	+·065	−·032	−·021	+·010	+·010
EAST RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Jaipur	+·022	+·031	+·054	+·004	+·009	−·001	−·006	−·022	+·068	−·033	−·010	+·016	+·011
	Deesa	+·021	+·028	+·026	−·023	+·014	+·006	−·007	−·026	+·058	−·035	−·028	+·005	+·003
DECCAN	Belgaum	−·002	−·005	+·024	−·014	+·022	+·015	−·010	−·004	+·035	−·007	−·021	+·009	+·004
	Sholapur	−·013	−·007	+·030	−·013	+·016	+·007	−·014	−·014	+·042	−·024	−·026	+·012	0
	Poona	+·002	+·007	+·030	−·013	+·027	+·021	−·002	−·009	+·061	−·016	−·019	+·009	+·008
	Akola	+·013	+·018	+·059	+·006	+·015	+·017	−·004	−·012	+·076	−·023	−·012	+·026	+·015
	Buldana	+·007	+·002	+·041	−·003	+·013	+·018	−·009	−·019	+·069	−·018	−·012	+·019	+·009
	Khandwa	+·017	+·018	+·045	−·014	+·012	+·009	−·007	−·023	+·074	−·031	−·015	+·021	+·008
	Nagpur	+·018	+·026	+·072	+·016	+·020	+·022	−·002	−·019	+·080	−·023	−·010	+·033	+·019
	Hyderabad (Deccan)	−·004	−·005	+·061	+·008	+·019	+·028	−·006	−·005	+·054	−·022	−·039	+·001	+·009
WEST COAST	Bombay	+·014	+·027	+·025	−·023	+·024	+·023	0	−·010	+·067	+·002	−·032	+·012	+·012
	Karwar	+·032	+·024	+·028	?	?	?	?	?	?	?	−·014	+·024	?
SOUTH INDIA	Salem	0	−·021	+·027	−·016	+·002	−·001	−·029	−·025	−·003	−·026	−·032	+·017	−·009
	Chitaldroog	+·010	−·013	+·040	−·010	+·001	+·024	−·017	+·001	+·031	−·010	−·041	−·001	+·001
	Bangalore	0	−·012	+·025	−·006	+·015	+·016	−·014	−·003	+·017	−·017	−·027	+·013	0
	Hassan	+·023	−·010	+·039	−·010	+·005	+·025	−·011	0	+·021	−·011	−·036	+·006	+·003
	Mysore	+·014	−·017	+·038	−·013	0	+·026	−·013	−·001	+·019	−·011	−·033	+·011	−·002
	Madras	+·001	−·013	+·041	+·004	+·010	+·014	−·020	−·011	+·022	−·022	−·037	+·023	+·001
	Bellary	−·010	−·006	+·037	−·013	+·020	+·012	−·019	−·008	+·027	−·029	−·028	+·012	0
HILL STATION, BALUCHISTAN.	Quetta	−·012	+·022	+·073	+·018	+·019	+·045	+·014	−·019	+·043	+·008	+·015	+·029	+·021
HILL STATIONS, NORTHERN INDIA.	Leh	−·031	+·050	+·085	−·026	−·004	+·017	+·038	+·004	+·019	+·027	+·041	+·023	+·020
	Srinagar	−·008	+·010	+·066	+·013	−·007	+·047	+·015	−·028	+·046	−·021	−·017	−·009	+·009
	Simla (Ridge)	−·023	+·014	+·065	+·014	+·022	+·015	+·012	−·001	+·046	+·013	+·023	+·026	+·019
	Chakrata	−·026	+·021	+·043	−·009	+·011	+·004	+·012	−·017	+·026	−·006	−·027	+·007	+·003
	Ranikhet	−·002	+·041	+·060	+·003	+·015	−·007	−·006	−·019	+·040	+·001	+·007	+·026	+·013
	Darjeeling	−·007	+·035	+·058	−·003	+·030	−·013	−·005	−·029	+·008	−·021	−·003	−·002	+·004
HILL STATIONS, CENTRAL INDIA.	Mount Abu	−·031	−·030	+·024	−·035	+·001	+·004	−·020	−·036	+·051	−·034	−·021	+·007	−·010
	Pachmarhi	+·002	+·003	+·048	−·003	+·012	+·026	−·006	−·036	+·073	−·014	−·005	+·021	+·010
	Chikalda	−·014	−·014	+·038	−·005	+·019	+·017	−·022	−·042	+·062	−·027	−·020	+·009	0

TABLE XIII.—*Comparison of monthly mean pressures in 1901 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Hill Station, Southern India.	Wellington .	+·030	+·005	+·029	−·007	+·012	+·019	−·008	+·004	+·028	+·004	−·012	+·013	+·010
Extra Indian Stations.	Aden . .	+·003	+·059	+·021	−·017	−·013	+·058	+·002	−·012	+·040	−·004	−·004	+·012	+·012
	Perim . .	+·032	+·071	+·044	+·010	−·004	+·048	−·013	−·022	+·036	+·013	−·004	+·026	+·020
	Zanzibar . .	+·037	+·018	+·016	−·007	−·009	+·036	−·006	+·010	+·045	+·035	+·010	+·008	+·016
	Port Victoria (Seychelles).	+·026	+·012	+·017	−·060	−·018	+·037	−·024	+·005	+·040	+·014	+·005	+·011	+·005
	Mauritius .	+·019	+·046	−·036	−·033	−·012	−·009	−·004	−·001	+·022	+·009	+·015	+·008	+·002

The following tables give summaries of the pressure variation data according to the two groups of divisions employed in the corresponding tables of temperature variation data, that is, for the sixteen divisions for which the variation data were given in the "Geographical Summaries" in the annual reports previous to 1891 and the eleven meteorological provinces in Table I of each monthly review :—

TABLE XIV.—*Geographical summary of the pressure variation data of Table II in the monthly weather reviews of 1901.*

Meteorological Province.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalaya	5	−·018	+·027	+·063	−·001	+·007	+·015	+·014	−·012	+·035	+·003	+·005	+·015	+·013
Sikkim Himalaya and Nepal.	1	−·007	+·035	+·058	−·003	+·030	−·013	−·005	−·029	+·008	−·021	−·003	−·002	+·004
Punjab Plains . .	3	+·019	+·036	+·059	+·021	+·021	−·006	−·006	−·050	+·044	−·042	−·022	+·014	+·007
Gangetic Plain . .	5	+·021	+·035	+·062	0	−·001	−·037	−·020	−·040	+·044	−·049	−·024	+·008	0
Western Rajputana .	4	+·006	+·022	+·030	−·016	+·005	+·001	−·008	−·037	+·056	−·036	−·022	+·008	+·001
Eastern Rajputana and Central India.	1	+·022	+·031	+·054	+·004	+·009	−·001	−·006	−·022	+·068	−·033	−·010	+·016	+·011
Nerbudda Valley .	1	+·017	+·018	+·045	−·014	+·012	+·009	−·007	−·028	+·074	−·031	−·015	+·021	+·008
Chota Nagpur . .	1	+·019	+·040	+·060	+·002	+·002	−·016	−·014	−·050	+·056	−·029	−·016	+·011	+·005
Lower Bengal . .	2	+·031	+·040	+·060	−·002	+·022	−·012	−·014	−·047	+·049	−·042	−·026	+·015	+·006
Orissa . . .	1	+·015	+·028	+·054	−·001	+·004	−·017	−·032	−·053	+·048	−·047	−·037	+·009	−·002
Central Provinces (South) and Berar.	5	+·005	+·007	+·052	+·002	+·016	+·020	−·009	−·026	+·072	−·021	−·012	+·022	+·011
Konkan . . .	1—2	+·023	+·026	+·027	−·023	+·024	+·023	0	−·010	+·067	+·002	−·023	+·018	+·013
Deccan, Hyderabad and Mysore.	9	+·002	−·008	+·036	−·009	+·014	+·019	−·012	−·005	+·034	−·014	−·030	+·008	+·003
Eastern Coast and Carnatic.	2	+·001	−·017	+·034	−·006	+·006	+·007	−·025	−·018	+·010	−·024	−·035	+·020	−·004
Arakan and Pegu .	3—4	+·001	+·006	+·026	+·002	−·008	−·022	−·030	−·014	+·027	−·046	−·016	+·005	−·006
Bay Islands . .	1	+·024	+·019	+·033	+·012	+·007	+·011	−·012	+·003	+·023	−·011	−·009	+·019	+·010
Extra-Tropical India .	24	+·009	+·031	+·055	−·001	+·009	−·008	−·007	−·035	+·046	−·031	−·016	+·011	+·005
Tropical India . .	23—24	+·006	+·001	+·036	−·004	+·010	+·011	−·015	−·012	+·040	−·020	−·022	+·013	+·004
Whole India . .	47—48	+·008	+·016	+·046	−·002	+·009	+·001	−·011	−·023	+·043	−·026	−·019	+·012	+·005

TABLE XV.—*Variations of the mean monthly pressure from the normal in 1901 in the eleven meteorological provinces of India.*

Meteorological Provinces.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Year.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	—·004	+·007	+·016	—·014	—·007	—·012	—·026	—·030	+·033	—·028	0	+·019	—·004
Burma Inland . . .	+·028	+·025	+·054	+·018	+·006	—·013	—·017	—·022	+·052	—·025	—·001	+·015	+·010
Assam	+·006	+·019	+·052	—·003	+·002	—·024	—·010	—·025	+·035	—·036	+·004	+·016	+·003
Bengal and Orissa . .	+·019	+·027	+·053	—·006	+·013	—·014	—·018	—·046	+·032	—·037	—·011	+·019	+·003
Gangetic Plain and Chota Nagpur.	+·022	+·036	+·064	—·002	+·003	—·030	—·022	—·046	+·046	—·038	—·013	+·014	+·003
Upper Sub-Himalayas . .	+·016	+·044	+·063	+·007	+·009	—·031	—·014	—·040	+·037	—·039	—·006	+·023	+·006
North-West Frontier, Indus Valley and North-West Rajputana.	+·011	+·038	+·038	+·010	+·007	—·008	—·012	—·048	+·045	—·042	—·015	+·015	+·003
East Rajputana, Central India and Gujarat.	+·013	+·029	+·040	—·013	+·017	+·010	—·002	—·023	+·069	—·024	—·015	+·008	+·009
Deccan	+·008	+·011	+·050	—·004	+·016	+·017	—·010	—·024	+·066	—·019	—·004	+·025	+·011
West Coast	+·009	+·002	+·013	—·023	+·028	+·013	—·013	—·005	+·034	+·004	—·011	+·017	+·006
South India	+·005	—·002	+·038	—·002	+·017	+·020	—·014	—·005	+·032	—·016	—·020	+·023	+·006

I.—The cold weather period.—The mean pressure of the Indian area was in slight excess in January and in moderate excess in February. The excess was in January greatest in Burma (Inland), Bengal and Orissa, the Gangetic Plain and the neighbouring parts of the Central India Plateau, and in February, greatest and very considerable along the line of the Himalayas, from Gorakhpur to Peshawar, being absolutely greatest in the extreme north of the Punjab from Khushab to Rawalpindi. It was also in considerable excess in Kathiawar and Sind. In January, it exceeded ·020″ only in Upper Burma, the Indo-Gangetic Plain (East), in the extreme north of the Punjab, and locally at Sirsa, Kurrachee and Rajkot. In February it exceeded ·020″ over the whole Indian area, except Lower Burma and in the Peninsula south of Latitude 20° N.; it exceeded ·040″ in the Upper Sub-Himalayas and in Kathiawar and at Kurrachee, and exceeded ·060″ at Khushab and Rawalpindi.

In both January and February, the mean pressure was in slight defect in the centre and south of the Peninsula and in Lower Burma. Thus, over Extra-Tropical India, the mean pressure was in January ·009″, and in February ·031″, in excess, while in Tropical India the values were +·006″ and +·001″, respectively. Consequently for the whole Indian region the mean pressure variation was +·008″ and +·016″, or a mean variation of +·012″ for the period.

The following gives the mean pressure anomalies in the various parts of India for the period:—

Area.	Pressure anomaly.		
	January.	February	Period, January and February.
	"	"	"
Burma	—·004	—·007	—·006
Assam	—·006	—·001	—·004
Bengal	+·008	+·005	+·007
Orissa	+·006	+·013	+·010
Bihar	+·009	+·014	+·012
Chota Nagpur	—·002	+·016	+·007
United Provinces of Agra and Oudh . .	+·009	+·017	+·013
Punjab	+·004	+·022	+·013
Sind	+·001	+·023	+·012
Rajputana	+·004	+·001	+·003
Gujarat	0	+·017	+·009
Central India	+·002	+·003	+·003
Central Provinces	+·002	—·004	—·001
Berar	+·003	+·006	+·005
West Coast	—·002	—·018	—·010
Bombay Deccan	—·007	—·020	—·014
Mysore	—·004	—·019	—·012
Madras Coast	—·003	—·017	—·010
Madras Deccan	—·017	—·022	—·020
South India	—·008	—·037	—·023
Ceylon (Colombo)	0	—·034	—·017

In January, pressure was in slight to moderate relative defect at the level of the hill stations, as compared with the neighbouring plains, and, in February, in very slight relative excess at some of the Upper India stations and slight to moderate relative defect at others, while in moderate relative excess in the Sikkim Himalayas and in moderate to large relative defect in other parts of India. The following gives data for ten pairs of stations :—

Hill and Plain Stations.	Vertical Pressure Anomaly		
	January.	February.	Period, January and February.
	"	"	"
Leh and Lahore	—·068	+·013	—·028
Murree and Peshawar	—·017	+·006	—·006
Simla and Ludhiana	—·053	—·033	—·043
Chakrata and Roorkee	—·042	—·025	—·034
Ranikhet and Bareilly	—·026	—·002	—·014
Darjeeling and Dhubri	—·008	+·033	+·013
Mount Abu and Deesa	—·040	—·041	—·041
Quetta and Jacobabad	—·024	+·001	—·012
Chikalda and Buldana	—·021	—·016	—·019
Wellington and Coimbatore	+·012	+·009	+·011

The following data for eleven meteorological provinces illustrate the local conditions in India in January and February :—

Meteorological Province.	Pressure Anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Burma Coast and Bay Islands	—·015	—·013	—·014
„ Inland	+·017	+·005	+·011
Assam	—·005	—·001	—·003
Bengal and Orissa	+·008	+·007	+·008
Gangetic Plain and Chota Nagpur	+·011	+·016	+·014
Upper Sub-Himalayas	+·005	+·024	+·015
North-West Frontier, Indus Valley and North-West Rajputana.	0	+·018	+·009
East Rajputana, Central India and Gujarat	+·002	+·009	+·006
Deccan	—·003	—·009	—·006
West Coast	—·002	—·018	—·010
South India	—·006	—·022	—·014

II.—The Hot Weather Period.—In March the weather was more rainy and unsettled than usual over Northern and Central India, and in these areas the temperature was generally low. The rainfall of the month was relatively heavy over North-West India and parts of the Peninsula and unusually light over Burma Inland and in North-East India. In April, on the other hand, the weather was drier than usual over the greater part of the country, the usual hail and thunder storms in Assam and North-East India being less severe and less frequent than usual; at the same time the rainfall was in marked excess round the head of the Bay in Ganjam, Orissa, Deltaic and East Bengal. In May, the weather was more showery and disturbed than usual over the greater part of the interior of the Peninsula. As in March, the rainfall in Assam and North-East India was lighter than usual, and the storms both lighter and less frequent. About the middle of April, a disturbance of unusual character gave a heavy fall of snow in Chitral and the districts to the north, and showers in the North Punjab. This was followed by an intense cool wave which spread over the Punjab about the 14th, and gradually extended eastwards and southwards during the third week.

A cyclonic storm of somewhat unusual character formed about the 25th April near Lat. 6½° N. and Long. 73⅜° E. and advancing first in a generally north-westerly direction towards the South-East Arabian Coast, and thereafter recurving, moved in a generally north-easterly direction over Baluchistan and entered Sind and the Punjab on the 4th or 5th of May. Strong winds and heavy rain accompanied the storm in the Punjab, where falls of 4 and ·5 inches in twenty-four hours were fairly general. 11·40 inches of rainfall were recorded at Fort Lockhart during the twenty-four hours ending at 8 A.M. on the 5th. This storm was followed by a cool wave of unusual intensity.

A feeble depression formed in the Bay on the 22nd and 23rd May which advanced by a curved path to the Arakan Coast and gave moderate to heavy rain in Burma during the last week of the month.

The mean pressure of the Indian region was in large excess in March, in very slight defect in April, and in slight excess in May. The following gives data for the period :—

Month.	Mean Pressure Variation.			
	Whole India.		Tropical India.	Extra-Tropical India.
	From data of Table I.	From data of Table II.		
	"	"	"	"
March	+·045	+·046	+·036	+·055
April	—·004	—·002	—·004	—·001
May	+·012	+·009	+·010	+·009

Pressure hence averaged ·018″ in excess throughout the period.

The following gives local pressure variations for each month and for the period in the various meteorological divisions :—

Meteorological Province.	Pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Burma Coast and Bay Islands	—·029	—·010	—·019	—·019
„ Inland	+·009	+·022	—·006	+·008
Assam	+·007	+·001	—·010	—·001
Bengal and Orissa	+·008	—·002	+·001	+·002
Gangetic Plain and Chota Nagpur	+·019	+·002	—·009	+·004
Upper Sub-Himalayas	+·018	+·014	—·003	+·009
North-West Frontier, Indus Valley and North-West Rajputana	—·007	+·014	—·005	+·001
East Rajputana, Central India and Gujarat	—·005	—·009	+·005	—·003
Deccan	+·005	0	+·004	+·003
West Coast	—·032	—·019	+·016	—·012
South India	—·007	+·002	+·005	0

The above shows that in most areas the mean pressure fell abruptly from March to April, but from April to May was *either steady* or recovered *more* or less considerably. The fall of pressure from March to April was most marked in North-East India, the Upper Sub-Himalayas and the neighbouring parts of the Central India Plateau and the Peninsula. The recovery of pressure in May was most marked and considerable on the West Coast and moderate in the Central Indian Plateau, but was elsewhere slight and unimportant. A feature of the period was the practically normal pressures in Burma throughout.

The following are the chief features of the mean pressure variations of the period :—

(1) In the Burma Coast pressure was in slight excess in March, in slight defect in April, and almost normal in May, the mean pressure of the period being practically normal.

(2) On the West Coast pressure was in slight excess in March, in moderate defect in April and in moderate excess in May, and on the mean of the period was practically normal.

(3) In most other parts of the country the mean pressure was in general in considerable excess in March, normal or in slight defect or excess in April, and in slight excess in May, being on the mean of the period about ·020″ in excess.

(4) Relatively to the general condition, pressure was in slight to moderate local excess in Upper and North-East India during March and April and in general defect in these areas during May; on the West Coast and in Sbuth India the conditions were generally the reverse of this, *i.e.*, pressure was in slight to moderate relative defect in March and April and in slight excess in May.

(5) The vertical pressure anomalies were in March positive in the extreme north-west and north-east, but negative in the Central Himalayan region and in Central and South India. In April, they were generally negative and moderate in amount, and, in May, generally positive and, except in Baluchistan and Sikkim, small and unimportant.

The following gives data for the period :—

Hill and Plain stations.	Vertical pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Leh and Lahore	+·034	—·033	+·003	+·001
Quetta and Jacobabad	+·049	+·024	+·036	+·036
Murree and Peshawar	+·024	—·013	—·003	+·003
Simla and Ludhiana	—·008	—·001	+·020	+·004
Chakrata and Roorkee	—·025	—·006	+·020	—·004
Ranikhet and Bareilly	—·010	+·010	+·012	+·004
Darjeeling and Dhubri	+·005	+·016	+·032	+·018
Mount Abu and Deesa	0?	—·005	—·019	—·008?
Pachmarhi and Hoshangabad	—·024?	—·006	0	—·010?
Chikalda and Buldana	—·003	—·002	+·006	0
Wellington and Coimbatore	—·017	—·010	—·015	—·014

(6) The following gives a statement of the chief abnormal features of the pressure conditions during May :—

The mean pressure of the Indian land area was in May in slight excess (+·012″). Relatively to the general conditions, pressure was in slight to moderate defect in the South-West Punjab, the Indo-Gangetic Plain, North-East India and Burma. In these areas, the defect was greatest at the stations for which data are given below :—

Station.	Variation from normal of mean 8 A.M. pressure of May, 1901.	Pressure anomaly, May, 1901.
	"	"
Jacobabad	—·010	—·022
Allahabad	—·015	—·027
Rangoon	—·018	—·030
Diamond Island	—·016	—·028
Moulmein	—·013	—·025
Mergui	—·010	—·022
Bassein	—·007	—·019

Pressure was in slight to moderate relative excess over the whole of the Peninsula as far north as Lat. 22° N. Within this area the excess was greatest at the Konkan stations, as shewn below :—

Station.	Variation from normal of mean 8 A.M. pressure of May, 1901.	Pressure anomaly, May, 1901.
	"	"
Bombay ..	+·029	+·017
Poona	+·029	+·017
Ratnagiri	+·037	+·025
Belgaum	+·030	+·018
Goa	+·035	+·023
Mangalore	+·027	+·015
Trivandrum	+·029	+·017
Masulipatam	+·027	+·015
Nellore	+·029	+·017

The pressure variations in May 1901 were similar in general character to those of May in the years 1878, 1891, 1898 and 1900, more especially the first and last years.

III.—The South-West Monsoon Period.—The south-west monsoon currents were much weaker than usual on both sides of India during June and the first three weeks of July. On the West Coast a feeble advance occurred on the 5th of June and from the 5th to the 9th moderate to heavy rain was reported from the West Coast stations. In the east of the Bay a feeble depression passed from the Andaman Sea northwards and entered East Bengal on the 9th.

A second advance occurred on the West Coast on the 13th, and, as at the same time a shallow depression advanced inland from the head of the Bay, monsoon winds held for a few days over the greater part of the country. By the 21st the currents had retreated.

The third advance occurred about the 7th July, when winds strengthened on the West Coast and rain extended into North Bombay and across Rajputana into the Punjab. About the same time a depression passed from the head of the Bay north-westwards and broke up in the Kumaon hills. About the 11th the monsoon currents retreated and from the 12th to the 17th July were replaced by westerly winds down the Gangetic Plain. On the 18th the monsoon currents came on again and during the next three days carried rainfall over the greater part of the country.

During the last week of July and the greater part of August the monsoon currents were of about normal strength on both sides of India. The currents were, however, weaker than usual in September, and the rainfall was in general defect, except in Burma and North-East India.

The following is a brief statement of the more important variations of the mean pressure conditions during the first-half of the monsoon period :—

1. The mean pressure of the Indian land area was almost exactly normal in June and in slight to moderate defect in July. In both months pressure was, relatively to the general distribution, more or less excessive over the greater part of the Peninsula and in relative defect along the line of the hills and in North-East India and Burma. The following gives data for the period :—

Month.	Mean variation of pressure from normal.		
	Extra-Tropical India.	Tropical India.	Whole India.
	"	"	"
June	—·008	+·011	+·001
July	—·007	—·015	—·011

The local features of the pressure distribution were in many respects similar to those obtaining in May. The following gives data :—

Province or Division.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Burma	—·016	—·012	—·009
Assam	—·010	—·022	+·004
Bengal	0	—·016	—·003
Orissa	+·005	+·002	—·012
Bihar	—·012	—·030	—·007
Chota Nagpur	—·006	—·008	—·006
United Provinces of Agra and Oudh	—·006	—·033	—·005
Punjab	—·002	—·017	0
Sind	—·002	+·007	+·016
Rajputana	+·004	0	+·010
Gujarat	+·006	+·026	+·018
Central India	0	+·002	—·001
Central Provinces	+·003	+·015	+·003
Berar	+·011	+·028	+·013
West Coast	+·016	+·015	+·002
Bombay Deccan	+·009	+·020	+·008
Mysore	—·004	+·021	+·003
Madras Coast	+·007	+·022	—·001
Madras Deccan	+·005	+·026	—·001
South India	+·001	+·021	0

2. The most important of the features which persisted during May, June and July were the following :—

(1) A slight defect in Lower Burma and the Andaman Sea. This is shewn by the following data for stations in that area :—

Station.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Port Blair	0	+·006	—·003
Mergui	—·022	—·010	—·002
Tavoy	?	—·015	—·015
Moulmein	—·025	—·014	—·014
Rangoon	—·030	—·021?	—·021
Diamond Island	—·028	—·017	—·023
Bassein	—·019	—·013	—·010

(2) A general deficiency of pressure along the whole Indo-Gangetic Plain, most marked in the eastern portion. This is shewn by the following data for representative stations :—

Station.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Ludhiana	—·010	—·027	—·001
Roorkee	—·009	—·034	—·002
Agra	—·009	—·030	—·012
Lucknow	—·008	—·033	—·010
Allahabad	—·027	—·045	—·019
Benares	—·013	—·034	—·010
Patna	—·014	—·033	—·016
Darbhanga	—·014	—·024	—·004
Gaya	—·017	—·034	—·015
Hazaribagh	—·007	—·016	—·006

(3) A slight to moderate deficiency in the South-West Punjab, North-West Rajputana and Upper Sind, shewn by the following data :—

Station.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Jacobabad	—·022	—·011	—·001
Bikaner	—·018	—·035	—·027
D. I. Khan	—·010	—·016	—·010
Mooltan	—·002	—·016	—·002

(4) A slight to moderate excess of pressure over Sind, Kathiawar, Gujarat, South-West Rajputana and the western districts of Central India. The following gives data :—

Station.	Pressure anomaly.		
	May.	June.	July.
	"	"	"
Kurrachee	+·008	+·011	+·021
Bhuj	+·016	+·025	+·023
Veraval	—·005	+·034	+·023
Rajkot	+·020	+·022	+·020
Deesa	+·015	+·020	+·024
Neemuch	?	?	+·002
Indore	+·018	+·031	+·026
Surat	+·009	+·020	+·013

3. During June, pressure was slightly lower than usual at Mauritius and in moderate excess at both Zanzibar and the Seychelles. Gradients were hence on the mean of the month less steep than usual in the Trades region. By July, however, these conditions had to some extent passed away, and pressure was in slight defect at both Mauritius and Zanzibar and in moderate defect at the Seychelles. The following gives data :—

Station.	Variation of pressure from normal.		
	May.	June.	July.
	"	"	"
Mauritius	—·012	—·009	—·004
Zanzibar	—·009	+·036	—·006
Seychelles	—·018	+·037	—·024

The following gives the chief features of the mean pressure in India during the second-half of the monsoon period :—

1. Pressure was in considerable defect in August and in considerable excess in September on the mean of the whole Indian area, as shewn below :—

Month.	Extra-Tropical India.	Tropical India.	Whole India.
	"	"	"
August	—·035	—·012	—·023
September	+·046	+·040	+·043

2. The local pressure anomalies were in August generally similar to those obtaining during the preceding months. The following gives data in illustration :—

Province or Division.	Pressure anomaly.			
	Mean of June and July.	August.	September.	Mean of August and September.
	"	"	"	"
Burma	—·011	0	—·002	—·001
Assam	—·009	+·003	—·010	—·004
Bengal	—·010	—·019	—·018	—·019
Orissa	—·005	—·021	+·010	—·006
Bihar	—·019	—·019	—·005	—·012
Chota Nagpur	—·007	—·023	+·004	—·010
United Provinces of Agra and Oudh.	—·019	—·011	—·002	—·007
Punjab	—·009	—·021	—·008	—·015
Sind	+·012	0	+·014	+·007
Rajputana	+·005	—·004	+·015	+·006
Gujarat	+·022	+·016	+·033	+·025
Central India	+·001	—·014	+·021	+·004
Central Provinces	+·009	—·009	+·026	+·009
Berar	+·021	+·016	+·044	+·030
West Coast	+·009	+·023	—·011	+·006
Bombay Deccan	+·014	+·020	+·018	+·019
Mysore	+·012	+·025	—·017	+·004
Madras Coast	+·011	+·021	—·002	+·010
Madras Deccan	+·013	+·019	—·012	+·004
South India	+·011	+·027	—·031	—·002

The above establishes that in August, as in June and July, pressure was, relatively to the general conditions, in slight to moderate defect over the greater part of Upper and North-East India, and in slight to moderate excess over Cutch, Kathiawar, Gujarat and neighbouring areas. In August, however, relatively excessive pressure began to show in the extreme south of the Bay and of the Peninsula, a feature which was not found in the previous months.

3. In September, several changes in the local distribution developed—

(1) The defect over the Gangetic Plain and Chota Nagpur entirely disappeared.

(2) The area of relatively high pressure which shewed over Cutch, Kathiawar and Gujarat in August developed and intensified very considerably in September and at the same time moved eastward, so that over the head of the Peninsula the mean pressure was in September in considerable to large excess.

(3) The relatively high pressures which in August lay over the south of the Peninsula and of the Bay were replaced in September by relatively low pressures over that region.

The following gives data in illustration of these changes :—

Area of change.	Station.	Pressure anomaly.	
		August.	September.
		"	"
(1) Gangetic Plain and Chota Nagpur.	Allahabad	—·033	+·009
	Benares	—·031	+·004
	Sutna	—·036	+·008
	Patna	—·027	—·006
	Gaya	—·025	+·007
	Ranchi	—·023	+·005
	Hazaribagh	—·022	+·002
	Jubbulpore	—·033	+·018
	Cuttack	—·024	+·007
(2) Gujarat, Kathiawar, Central Provinces and Berar.	Bhuj	+·021	+·030
	Veraval	+·014	+·035
	Rajkot	+·010	+·035
	Surat	+·021	+·034
	Malegaon	+·011	+·033
	Indore	+·014	+·043
	Khandwa	+·009	+·042
	Akola	+·013	+·040
	Amraoti	+·018	+·048
(3) South of the Peninsula and Bay Islands.	Trichinopoly	+·031	—·032
	Coimbatore	+·030	—·023
	Negapatam	+·023	—·041
	Salem	+·018	—·042
	Calicut	+·026	—·038
	Cochin	+·027	—·034
	Madras	+·022	—·034
	Colombo	+·026	—·044
	Port Blair	+·020	—·026
	Mergui	+·016	—·015

4. The vertical pressure anomalies were, over the Himalayas, positive and moderate to large in amount during August, indicating that in August pressure was in much less defect at the level of the hill stations than at the level of the plains. In September, on the other hand, pressure was almost equally excessive, but on the whole in slightly greater excess at the level of the plains than at the level of

the hill stations. The following gives data in illustration :—

Pair of Stations.	Vertical pressure anomaly.		
	August.	September.	Period, August and September.
	"	"	"
Leh and Lahore	+·061	—·005	+·028
Murree and Peshawar	+·045	—·002	+·022
Quetta and Jacobabad	+·034	—·008	+·013
Simla and Ludhiana	+·037	+·002	+·020
Chakrata and Roorkee	+·029	—·006	+·012
Ranikhet and Bareilly	+·022	—·008	+·007
Darjeeling and Dhubri	+·011	—·028	—·009
Mount Abu and Deesa	—·012	—·030	—·021
Pachmarhi and Hoshangabad	—·028	—·019 ?	—·024 ?
Chikalda and Buldana	—·023	—·007	—·015
Wellington and Coimbatore	—·005	+·008	+·002

An important feature of this period is the succession of cyclonic storms which usually form in the Bay of Bengal, and advance in a north-westerly direction over the land, carrying heavy rainfall to the areas in their track, and hence largely affecting the distribution of the rainfall of the period.

One depression of feeble intensity formed in the Bay in June. It advanced from the Andaman Sea up the east of the Bay and crossed the East Bengal Coast on the 9th.

In July, two shallow depressions formed in the north-west angle of the Bay ; the first advanced north-westwards up the Gangetic Plain at the beginning of the second week and broke up in the Kumaon Hills about the 11th ; the other formed about the 27th, and thereafter moved along a similar track and filled up in North-West India about the end of the month.

Besides these, a shallow land-formed depression, which shewed over the west of Bengal and the east of the United Provinces on the 22nd, subsequently moved westwards over the United and Central Provinces, giving good rain to the areas in its track.

In August, a storm passed up from South-West Bengal to near Jhansi during the first four days of the month.

A second storm formed over Deltaic Bengal about the 8th, and during the next seven days passed up the Gangetic Plain to Agra and gave very heavy rain to parts of the United and Central Provinces.

A similar land-formed storm advanced from Deltaic Bengal to Central India during the fourth week of the month, giving moderately heavy rain to North-East and Central India.

In September a shallow depression, which shewed from the 3rd to the 6th in South-West Bengal, moved first north and then north-eastwards to East Bengal during the next two days and gave heavy rain to the greater part of North-East India.

The only other storm which occurred during September formed in the centre of the Bay on the 19th and 20th, and thereafter crossed the Bay to the Circars Coast and, passing inland, moved in a curved track over Raipur, and then northward over the United Provinces to the Nepal Hills, where it broke up on the 25th.

The south-west monsoon of 1901 was characterized by a smaller number of disturbances than usual, and in this, as in several other features, closely resembled the south-west monsoon of 1900.

IV.—The retreating south-west monsoon period.—For a general description of the weather conditions during this period, see the corresponding section in the Chapter on Temperature (pages 883—5).

The following table gives the pressure anomalies in eleven meteorological provinces for each month of the period and for the whole period :—

Meteorological Provinces.	Pressure anomaly.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Burma Coast and Bay Islands	—·003	+·010	0	+·002
Burma Inland	—·001	+·009	—·004	+·001
Assam	—·011	+·014	—·003	0
Bengal and Orissa	—·012	—·001	0	—·004
Gangetic Plain and Chota Nagpur	—·013	—·003	—·005	—·007
Upper Sub-Himalayas	—·014	+·004	+·004	—·002
North-West Frontier, Indus Valley and North-West Rajputana	—·017	—·005	—·004	—·009
East Rajputana, Central India and Gujarat	+·001	—·005	—·011	—·005
Deccan	+·006	+·006	+·006	+·006
West Coast	+·029	—·001	—·002	+·009
South India	+·009	—·010	+·004	+·001

Pressure was generally in moderate to considerable defect in October, in slight to moderate defect in November and in moderate general excess in December.

The following gives the chief abnormal features of the period :—

1. By October the abnormal excess of pressure, which characterized September, had entirely desappeared, and pressure was in slight to large defect over the greater part of the Indian region. The defect was greatest in the extreme north-west, but was considerable over the greater part of Upper India, North-East India and Upper Burma. It was moderate over the Peninsula and slight on the West Coast.

2. By November the distribution had altered considerably, pressure being approximately normal along the

line of the Himalayas and in North-East India and Burma, as also in the West Satpuras. It was in defect over the west of the Bay and the East Coast, in the Central Gangetic Plain and in Kathiawar. The local relative variations were, however, very slightly marked and of little importance.

3. In December the only features of note were the relatively high pressures in the Upper Sub-Himalayas, Central Bengal, the Central Provinces and the Deccan and the relatively low pressures over Kathiawar. In this, as in the previous month, the local variations were, however, for the most part of no importance.

4. The general excess of pressure which characterized the Indian region during December was not confined to the Indian region, but seemed to be characteristic of the Persian area to an even more marked extent than in India.

The following gives the data available for the Persian area during the month of December:—

VARIATION DATA FOR DECEMBER, 1901.

Baghdad.	Bushire.	Mean of Persian area.	Mean of Indian area.
"	"	"	"
+·052	+·031	+·042	+·019

5. The vertical pressure anomalies were generally positive and moderately strongly marked in October and November, but in December were small and of little importance. The following gives data:—

HILL AND PLAIN STATIONS.	VERTICAL PRESSURE ANOMALY.			Period, October to December.
	October.	November.	December.	
	"	"	"	"
Leh and Lahore	+·082	+·066	+·009	+·052
Quetta and Jacobabad	+·043	+·028	+·017	+·029
Murree and Peshawar	+·054	+·060	+·028	+·047
Simla and Ludhiana	+·045	+·026	—·001	+·023
Chakrata and Roorkee	+·049	+·007	+·004	+·020
Ranikhet and Bareilly	+·040	+·034	+·011	+·028
Darjeeling and Dhubri	+·024 ?	+·011	—·005	+·010 ?
Mount Abu and Deesa	—·009	+·005	+·017	+·004
Pachmarhi and Hoshangabad	+·009	—·009	—·017	—·006
Chikalda and Buldana	—·009	—·008	—·010	—·009
Wellington and Coimbatore	+·008	—·002	—·025	—·006

The year.—The mean pressure of the year was, on the average of the whole Indian area, ·005" above the normal, and was in excess in all provinces, except the Burma Coast. The variations were generally slight and exceeded ·010" only in the North-West Himalayas, East Rajputana and Central India, the Central Provinces (South), Berar and the Konkan.

The following gives mean variation data of the year for twenty areas:—

PROVINCE OR DIVISION.	Variation from normal of mean 8 A.M. pressure of year.	Pressure anomaly of year.
	"	"
Burma	+·001	—·005
Assam	+·004	—·002
Bengal	+·002	—·004
Orissa	+·004	—·002
Bihar	+·001	—·005
Chota Nagpur	+·008	+·002
United Provinces of Agra and Oudh	+·006	0
Punjab	+·005	—·001
Sind	+·010	+·004
Rajputana	+·008	+·002
Gujarat	+·010	+·004
Central India	+·001	—·005
Central Provinces	+·012	+·006
Berar	+·021	+·015
West Coast	+·006	0
Bombay Deccan	+·011	+·005
Mysore	+·003	—·003
Madras Coast	+·010	+·004
Madras Deccan	+·008	+·002
South India	+·002	—·004

Pressure was, on the mean of the year, more largely in excess at the hill stations than at the neighbouring plains stations. The following gives data:—

PAIRS OF STATIONS.	Vertical pressure anomaly of year.
	"
Leh and Lahore	+·021
Quetta and Jacobabad	+·023
Murree and Peshawar	+·016
Simla and Ludhiana	+·010
Chakrata and Roorkee	+·008
Ranikhet and Bareilly	+·012
Darjeeling and Dhubri	+·009
Mount Abu and Deesa	—·024
Wellington and Coimbatore	—·006

The following gives the variations of the mean pressure of Extra-Tropical and Tropical India, and also of the whole of India from the normal, month by month during the year 1901:—

MONTH.	VARIATION FROM NORMAL OF MEAN PRESSURE IN			Variation of temperature, whole India from Table II.
	Extra-Tropical India from Table II.	Tropical India from Table II.	Whole India from Table II.	
	"	"	"	°
January	+·009	+·006	+·008	—0·3
February	+·031	+·001	+·016	—0·5
March	+·055	+·036	+·046	+0·3
April	—·001	—·004	—·002	—0·1

Month.	Variation from normal of mean pressure in			Variation of temperature, whole India, from Table II.
	Extra-Tropical India from Table II.	Tropical India from Table II.	Whole India from Table II.	
	"	"	"	°
May	+·009	+·010	+·009	+0·3
June	—·008	+·011	+·001	+1·7
July	—·007	—·015	—·011	+0·9
August	—·035	—·012	—·023	+0·4
September	+·046	+·040	+·043	+0·9
October	—·031	—·020	—·026	+2·1
November	—·016	—·022	—·019	+1·3
December	+·011	+·013	+·012	+0·6
Whole year	+·005	+·004	+·005	+0·6

The following gives the progressive variation of the mean annual pressure of the past 27 years for the Indian land area:—

Year.	Number of stations.	Mean anomaly.	Progressive variation.
		"	"
1875	33	—·007	
1876	35	—·007	0
1877	59	+·032	+·039
1878	65	+·002	—·030
1879	81	—·014	—·016
1880	93	—·003	+·011
1881	93	+·002	+·005
1882	93	—·010	—·012
1883	105	—·005	+·005
1884	107	+·010	+·015
1885	113	+·014	+·004
1886	118	—·003	—·017
1887	117	—·006	—·003
1888	109	+·011	+·017
1889	76	+·004	—·007
1890	77	—·009	—·013
1891	72	+·010	+·019
1892	72	—·022	—·032
1893	66	—·001	+·021
1894	66	—·012	—·011
1895	66	+·003	+·015
1896	68	—·001	—·004
1897	74	—·005	—·004
1898	74	—·018	—·013
1899	51	+·004	+·022
1900	49	+·010	+·006
1901	47	+·005	—·005

The following gives a statement of the more important cyclonic storms which affected the Indian area during the south-west monsoon of 1901, drawn up in the same form as in previous years. The tracks of these storms are given in Plate VI at the end of the Summary:—

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
			"		
1	April and May.	24th April to 5th May.	·42	Cyclonic storm of considerable intensity.	This remarkable storm was generated on the 24th and 25th April in the neighbourhood of the Maldive Islands in front of the first temporary advance of south-west winds in the Arabian Sea. It marched in a north-westerly direction towards the Arabian Coast and lay off the Kuria Muria Islands on the 2nd of May. It then recurved rapidly to north and travelling rather quickly passed inland across the Mekran Coast during the 3rd near Omara. It thence moved north-eastwards through South Baluchistan and Sind, where it absorbed a feeble depression already existing in that area. The combined depression passed during the next twenty-four hours into the Punjab, where it filled up during the day at the foot of the hills. The storm gave exceptionally heavy rain to some parts of Baluchistan and the Punjab frontier districts which gave rise to destructive floods in many valleys. H.M.S. *Sphinx* which passed through the inner area of the storm on the afternoon of the 3rd experienced winds of force 11.
2	September.	19th to 25th	" ·15	Cyclonic storm of feeble intensity.	This storm originated in the centre of the Bay nearly midway between the Andamans and Circars Coasts on the 19th and 20th. It travelled along a north-west track towards the Ganjam Coast, which it crossed to the north of Vizagapatam on the morning of the 22nd. It thence advanced into the south-eastern districts of the Central Provinces. It then recurved rapidly to north during the next twenty-four hours and marching through Bundelkhand, Baghelkhand and the eastern and central districts of the United Provinces broke up in the Nepal hills during the 25th. The storm was apparently throughout of feeble intensity, but occasioned a heavy burst of rain in the Gonda, Pilibhit and Naini Tal districts whilst it was breaking up. The strongest winds experienced by vessels in the Bay during the existence of the storm were of force 6 to 7.

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
			"		
3	October	5th to 10th	·27	Cyclonic storm of moderate intensity.	This storm originated in the centre of the Bay on the 5th. It advanced slowly northwards with a slight easting during the next three days and crossed the East Bengal Coast near Barisal on the 8th. It thence passed into East Bengal, where it broke up during the 9th. The storm occasioned moderate to heavy rain in East and Central Bengal. The strongest winds reported by vessels in the Bay during its existence were of force 7.
4	October	11th to 18th	·25	Cyclonic storm of moderate intensity.	This storm formed immediately after the previous disturbance filled up. Like the previous storm it originated in the centre of the Bay and marched in a west-by-north direction during the 13th and 14th and crossed the Ganjam Coast to the south of Vizagapatam on the afternoon of the 14th. The centre was a little to the east of Hanamconda at 8 A.M. of the 15th, near Akola on the 16th and near Rajkot on the 17th. The storm filled up rapidly during this day, but as a small residual depression was transmitted westwards into the Arabian sea, where it, however, failed to redevelop. The storm gave moderate rain to the districts through which it passed. Winds of force 7 were experienced by vessels in the storm area.
5	November.	11th to 19th	·22	Cyclonic storm of moderate intensity.	This storm formed in the south-west of the Bay on the 12th and 13th, and marched in a north-by-east course parallel to the Ghâts during the next three days, and was central to the east of Gopalpur at 8 A.M. of the 16th. It then recurved to north-east and advanced towards the East Bengal Coast which it crossed during the 17th. It continued to drift in the same direction during the next forty-eight hours and filled up in Upper Burma on the 19th. The storm gave heavy down-pours of rain in Orissa and the North Circars on the 16th. Vessels within the storm area experienced winds of force 6 to 9.
6	November.	22nd to 28th	·7	Severe cyclonic storm, or moderate cyclone.	This storm formed in the centre of the Bay between the Andamans and the Coromandel Coast on the 22nd and 23rd, immediately after the breaking up of the previous storm. It was a diffused disturbance until the morning of the 23rd, when it began to concentrate and march along a northerly track. The centre was in about Lat. 15½° N. and Long. 87° E. at 8 A.M. of the 25th. It continued to march northwards and crossed the coast near Saugor Island on the morning of the 26th. The storm followed a north-east track during the next 24 hours and was central near Bogra on the morning of the 27th. It was now of slight intensity and broke up during the day. It gave moderate to heavy rain in Bengal, Burma, Orissa and Ganjam. The storm was a severe disturbance and occasioned very stormy weather in the Bay, the F. L. V. *Planet* and *Torch* experiencing hurricane winds of force 11 to 12.

The following is a similar statement of the only important land-formed depression generated in the plains of Bengal during the south-west monsoon of 1901 :—

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	September.	3rd to 10th	·23	Land-formed storm of moderate intensity.	This land-formed depression was generated in Lower Bengal on the 3rd and 4th under the usual conditions. It intensified slightly on the 5th and 6th, during which period it was practically stationary. It began to drift slowly northwards during the 6th and lay over Central Bengal a little to the west of Berhampore at 8 A.M. of the 7th. It then recurved and marching east-north-eastwards passed into East Bengal on the 9th. It broke up rapidly during the next twenty-four hours in the Assam Hills. The storm was noteworthy for the heavy rain it gave to East and Central Bengal. The track of this storm is not given in the storm track chart.

Winds.

I.—The cold weather period.—During this period a series of fourteen depressions affected the weather in Northern and Central India. Most of these were, however, of feeble intensity and advanced by more southerly tracks than usual, and hence failed to give rise to well-formed secondary depressions in the Punjab. Only two of the storms, *viz.*, those of the 9th to the 14th January and the 1st to the 8th February, were fairly deep depressions and gave heavy snow in the Western Himalayas.

During this period the air movement was more or less above its normal intensity at most of the hills stations in North-Western and Central India and feebler than usual in the Sikkim Himalayas and Baluchistan. The following gives data in illustration :—

Station.	Mean daily air movement, in miles.					
	Actual, January 1901.	Normal, January.	Percentage variation from normal, January.	Actual, February 1901.	Normal, February.	Percentage variation from normal, February.
Leh	32	22	+45	34	29	+17
Srinagar	79	71	+11	109	74	+47
Simla	86	128	—33	116	131	—11
Chakrata	168	123	+37	205	134	+53
Ranikhet	50	44	+14	82	57	+44
Mount Abu	142	119	+19	186	140	+33
Pachmarhi	125	78	+60	159	98	+62
Chikalda	175	123	+42	162	148	+ 9
Darjeeling	73	88	—17	113	137	—18
Quetta	50	74	—32	41	88	—53

Winds were feebler than usual during the period in the Punjab, Rajputana, Sind and Orissa, as is shown by the following data :—

Area.	Mean daily air movement, in miles, during cold weather period, January and February.		
	Actual.	Normal.	Percentage variation from normal.
Punjab	46	54	—15
Rajputana	145	149	— 3
Sind	100	153	—35
Orissa	142	169	—16

The air movement was practically normal in the United Provinces and Chota Nagpur, but was stronger than usual in Bengal, Bihar and Burma.

The following gives data for these areas :—

Area.	Mean daily air movement, in miles, during cold weather period, January and February.		
	Actual.	Normal.	Percentage variation from normal.
Burma	139	118	+18
Bengal	126	114	+11
Bihar	89	77	+16
Chota Nagpur	154	154	0
United Provinces of Agra and Oudh	64	62	+ 3

The chief feature of the air movement in February was the prevalence of abnormal northerly winds on the Bengal Coast indicating a delay in the establishment of the local sea breezes which usually set in over that area during the second half of the month. Winds were, on the mean of the period, irregular in Berar, Central India and the Central Provinces, although they were practically normal in steadiness.

The following gives data for steadiness in illustration :—

Area.	Percentage of mean wind steadiness.			
	January.	February.	Mean of period, January and February.	Variation from normal of period, January and February.
Berar	31	23	27	+4
Central Provinces	28	16	22	—4

The air movement in South India and Mysore was practically normal both in January and February. It was, on the other hand, somewhat stronger than usual on the mean of the period in the Deccan, the Central Provinces, Berar, and on the Konkan and Madras coasts.

The following gives comparative data showing the variations from normal of the intensity of the diurnal air movement in the Peninsula during the period :—

Area.	Mean daily air movement, in miles.				
	Actual, January.	Actual, February.	Mean actual of period, January and February.	Mean normal of period, January and February.	Percentage variation from normal of period, January and February.
Central Provinces	101	130	116	96	+20
Berar	119	175	147	116	+27
Bombay Deccan	179	230	205	188	+17
Madras Deccan	157	129	143	90	+59
Madras Coast	133	159	146	130	+12
Mysore	136	146	141	142	—1
Konkan	164	188	176	163	+8
South India	123	137	130	123	+6

The following statement shows the mean wind force and its variation from the normal in the Bay of Bengal and the Arabian Sea during the period :—

Area.	Mean daily force of wind (Beaufort's Scale).					
	Actual, January.	Variation from normal, January.	Actual, February.	Variation from normal, February.	Mean of period, January and February.	Variation from normal of period, January and February.
Bay of Bengal .	3·0	0	2·9	+0·4	3·0	+0·2
Arabian Sea .	3·3	0	3·8	+0·8	3·6	+0·4

The data indicate that the drift from the north-east across the Bay of Bengal and Arabian Sea was of normal intensity in January and stronger than usual during the succeeding month.

The air movement was hence more or less above normal strength over the greater part of the country during the period, an indication that the cold weather conditions were much more strongly marked than usual. The winter was prolonged beyond its normal date and thus delayed the establishment of the usual sea breezes on the Bengal coast.

II.—The hot-weather period.—Weather was on the whole less disturbed than usual in March and April over the greater part of the Indian area, but was very unsettled in Upper India and Baluchistan in May.

Temperature was on the mean of the month of May more or less in excess of the normal, except locally in the Punjab and the Deccan, where it was normal or in defect. The excess was generally small in amount, an indication that the hot weather conditions were not more pronounced than usual.

The following were the chief features of the air movement of the period :—

(1) Winds were steadier and stronger than usual in Bengal. The direction varied irregularly from the normal at different stations, but was, on the whole, much more westerly than usual at Chittagong and Calcutta and normal at Saugor Island.

The following gives data showing the actual deflection :—

Station.	Westerly deflection.			
	March.	April.	May.	Mean of period, March to May.
	°	°	°	°
Chittagong . . .	+54	+17	+39	+37
Calcutta . . .	+52	+14	+ 2	+23
Saugor Island . .	+21	— 3	—18	0

(2) Winds were of normal strength in the United Provinces.

(3) Winds were on the mean of the period feebler than usual in Bihar, Chota Nagpur, the Punjab and Rajputana.

(4) Winds were more vigorous than usual at the hill stations in Northern and Central India.

(5) Winds were stronger than usual in Berar, the Central Provinces, the Deccan, Mysore and Southern India. They were, on the other hand, below normal strength in the coast districts of the Peninsula. Winds were, on the whole, somewhat more westerly than usual in the Deccan in April and May.

(6) Winds were of normal strength in the Andamans, but contained an unusually strong westerly element in May.

The following gives data showing the percentage variation of the air movement month by month from the normal during this period in Northern and Central India :—

Area.	Percentage variation from normal of mean daily air movement in			
	March.	April.	May.	Period, March to May.
Bengal	—11	+16	+ 5	+ 3
Bihar	—29	—23	—13	—21
Chota Nagpur	— 7	—10	—17	—11
United Provinces of Agra and Oudh	—15	0	+ 7	— 3
Punjab	— 9	—17	+ 3	— 8
Sind	—26	—19	— 8	—18
Rajputana	—11	—15	— 7	—11

The preceding data show that the air movement in the hot season over the greater part of Northern India was weaker than usual. The deficiency was on the whole most marked in the months of March and April.

The following gives corresponding data for the Peninsula :—

Area.	Percentage variation from normal of mean daily air movement in			
	March.	April.	May.	Period, March to May.
Central Provinces . . .	+10	+13	— 1	+7
Berar	— 3	+ 2	+ 8	+2
Bombay Deccan	— 1	— 6	+17	+3
Madras Deccan	+19	+ 9	— 6	+7
Mysore	+20	+ 7	—13	+5
Konkan	—10	0	— 4	—5
Madras Coast	—14	+ 4	— 9	—6
South India	+21	+ 5	— 6	+7

These data indicate that while the air movement was stronger than usual in the interior districts it was not so vigorous as usual in the coast districts.

The following gives mean data for the winds in the Bay of Bengal and Arabian Sea for the period :—

Area.	Variation of mean daily force of wind (Beaufort's notation) in				Normal mean strength of winds during period.
	March.	April.	May.	Period, March to May.	
Bay of Bengal	+0·2	−0·1	+0·1	+0·1	2·7
Arabian Sea	+0·1	−0·1	−0·6	−0·2	3·9

The mean intensity of the air movement was practically normal, being in slight excess in the Bay of Bengal and in defect in the Arabian Sea.

III.—The south-west monsoon period.—The Arabian Sea current set in slightly later than usual in the second week of June and extended very slowly into the interior. The Bay current was established about the normal date on the Bengal coast.

The first burst of the monsoon current was not so strong as usual and withdrew from North-Western and Central India in the third week of June. The break thus initiated lasted until the 7th or 8th July. Both currents were weaker than usual in July and of about normal strength in August. The Bombay current retreated from North-Western and Central India in the first week of September.

The comparative data in the table below based upon the anemometric observations of four coast and four inland stations under the influence of the two currents give an approximate estimate of the strength of the air movement of the two branches of the monsoon currents :—

Month.	Percentage variation from normal of mean daily air movement.			
	Bay of Bengal current.		Bombay current.	
	Four coast stations.	Four inland stations.	Four coast stations.	Four inland stations.
June	+12	−18	−22	+ 3
July	− 9	−12	−12	+ 3
August	+ 6	+ 1	− 2	+12
September	− 4	+14	−14	− 7
Mean of period	+ 1	− 4	−12	+ 3

The data given in the preceding table show that the air movement varied irregularly and in opposite directions at the land and coast stations in the case of the Bengal current, but on the mean of both was of approximately normal intensity. The data for the Bombay current indicate that it was considerably below normal strength in the coast districts during the greater part of the period.

The following table gives corresponding data for the steadiness of the two currents :—

Month.	Variation from normal of percentage of mean wind steadiness.			
	Bay of Bengal current.		Bombay current.	
	Four coast stations.	One inland station.	Three coast stations.	Four inland stations.
June	+11	+10	+ 3	+ 6
July	+ 1	− 9	+ 6	+ 7
August	+14	+10	+11	+10
September	+ 3	+ 7	+ 8	+ 1
Mean of period	+ 7	+ 5	+ 7	+ 6

Both currents were, as shown by the data, steadier than usual over the whole area dominated by them and more especially in the coast districts.

The comparative data given in the following table of the mean actual and normal force of the winds derived from the meteorological information contained in the logs of vessels navigating the Indian seas indicate that the air movement was below the normal to a moderate extent throughout the period in the Arabian Sea, and was of normal intensity in the Bay of Bengal on the mean of the whole period. The actual variations are chiefly derived from the vessels following four or five tracks in these seas, and hence do not necessarily indicate a variation common to the whole area. They, however, almost certainly establish that the current in the Arabian Sea was below its normal strength throughout the period :—

Month.	Mean daily force of wind (Beaufort's notation) in the					
	Bay of Bengal.			Arabian Sea.		
	Actual, 1901.	Normal.	Variation from normal.	Actual, 1901.	Normal.	Variation from normal.
June	4·3	4·0	+0·3	4·0	4·5	−0·5
July	4·2	4·0	+0·2	4·3	4·6	−0·3
August	4·0	4·0	0	3·9	4·3	−0·4
September	3·1	3·7	−0·6	3·1	3·5	−0·4
Mean of period	3·9	3·9	0	3·8	4·2	−0·4

The following summarizes the chief features of the air movement during the first half of the monsoon period (June and July).

(1) Winds were during this period more westerly than usual in the Bay Islands and Lower Burma and were more southerly than usual in Bengal and Orissa.

The following data illustrate these features:—

Station.		Deflection from normal.		
		June.	July.	Period, June and July.
		°	°	°
Port Blair	Increased westing.	+25	+21	+23
Rangoon		+ 4	+5	+4
Diamond Island		+12	+10	+11
Chittagong		+16	+18	+17
Calcutta	Increased southing.	+ 2	−15	−6
Saugar Island		+ 9	+21	+15
False Point		− 1	+16	+7

(2) Winds were on the mean of the period steadier than usual over the whole of Northern India. They were feebler than usual in Bihar, Chota Nagpur, the Punjab and Sind and above their normal strength in Bengal, the United Provinces and Rajputana. The following gives data:—

Area.	Percentage variation from normal of mean daily air movement in		
	June.	July.	Period, June and July.
Bengal	+26	+11	+18
Bihar	−26	−29	−27
Chota Nagpur	+ 3	−10	− 3
United Provinces of Agra and Oudh	+20	+17	+18
Punjab	−14	−11	−12
Sind	−11	− 7	− 9
Rajputana	+ 4	+ 4	+ 4

(3) Winds were on the whole stronger than usual over the interior of the area, usually dominated by the Bombay current, as is shown by the following data:—

Area.	Percentage variation from normal of mean daily air movement in		
	June.	July.	Period, June and July.
Central Provinces	+15	+13	+14
Berar	+19	+17	+18
Bombay Deccan	0	+ 8	+ 4
West Coast	−13	− 3	− 8
Madras Deccan	− 6	+ 5	0
South India	+26	+ 1	+13

(4) Winds were more directly from the west than usual on the Konkan Coast and in South India. The following gives data in illustration:—

Station.	Westerly deflection.		
	June.	July.	Period, June and July.
	°	°	°
Bombay	+11	+4	+7
Karwar	−10	+4	−3
Salem	+17	+13	+15

The most important feature of the period, June and July, was the increased westing in the wind direction in the centre of the Bay, Lower Burma and South India, indicating an unusually strong set of the currents to these areas.

The following gives the more noteworthy features of the air movement during the second-half of the monsoon period:—

(1) Winds were more westerly than usual at Port Blair and the Bengal and Orissa Coast stations, as is shown by the following data:—

Station.	Westerly deflection.		
	August.	September.	Period, August and September.
	°	°	°
Port Blair	+19	+10	+14
Chittagong	+24	+25	+24
Calcutta	− 7	+52	+22
Saugor Island	+10	+31	+20
False Point	+11	+10	+10

(2) Winds were feebler than usual throughout the period in Northern India, except in Bengal and the United Provinces, where they were slightly above their normal strength.

The following gives data in illustration:—

Area.	Percentage variation from normal of mean daily air movement in		
	August.	September.	Period, August and September.
Bengal	+14	+20	+17
Bihar	−32	−53	−42
Chota Nagpur	−22	−6	−14
United Provinces of Agra and Oudh	+5	+3	+4
Punjab	−16	−22	−19
Sind	−1	−6	−3
Rajputana	−7	−1	−4

(3) Winds were unusually westerly over the greater part of Northern India in September in consequence of the early withdrawal of the monsoon. This is shown below :—

Station.	Westerly deflection of wind, September 1901.
Chittagong	+25
Calcutta	+52
Saugor Island	+31
False Point	+10
Allahabad	+42
Meerut	+33
Lahore	+109
Ludhiana	+33
Jaipur	+43

(4) Winds were generally lighter and less steady than usual in the Peninsula in the month of September, although steadier and stronger than usual in August.

The following data illustrate these features :—

Area.	Variation from normal of wind steadiness in			Percentage variation from normal of mean daily air movement in		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
Central Provinces	+19	— 2	+8	+38	— 1	+18
Berar	+10	+ 9	+9	+17	— 2	+ 7
Madras Deccan	+13	—12	0	+38	—13	+12
West Coast	+14	+12	+13	+6	— 2	+ 2
Bombay Deccan	+ 3	— 2	0	+20	— 5	+ 7
South India	—19	—19	—19	+ 4	—18	— 7

It may be noted that there were no large or persistent variations in the direction of the air movement over these areas.

(5) The winds at the hill stations in Rajputana and the Central Provinces were as largely above their normal strength as in the neighbouring plains :—

Station.	Percentage variation from normal of daily air movement in		
	August.	September.	Period, August and September.
Mount Abu	+22	+47	+34
Pachmarhi	+50	0	+25

The following table gives the percentage variation of the strength of the winds from the normal month by month in different provinces throughout the whole season :—

Area.	Percentage variation from normal of mean daily air movement in				
	June.	July.	August.	September.	Period, June to September.
Burma	—6	—17	+11	—22	—8
Bengal	+26	+11	+14	+20	+18
Bihar	—26	—29	—32	—53	—35
Chota Nagpur	+3	—10	—22	—6	—9
Orissa	+9	—14	—6	—3	—3
United Provinces of Agra and Oudh.	+20	+17	+5	+3	+11
Punjab	—14	—11	—16	—22	—16
Sind	—11	—7	—1	—6	—6
Rajputana	+4	+4	—7	—1	0
Central Provinces	+15	+13	+38	—1	+16
Berar	+19	+17	+17	—2	+13
West Coast	—13	—3	+6	—2	—3
Bombay Deccan	0	+8	+20	—5	+6
Madras Deccan	—6	+5	+38	—13	+6
Mysore	+1	—3	0	—26	—7
Madras Coast	+8	—4	—10	—17	—6
South India	+26	+1	+4	—18	+3

The chief features of the south-west monsoon air movement were hence as follows :—

(1) The Bay current was of practically normal strength during the greater part of the period. It was, however, determined to a greater extent than usual to Bengal and Burma in June and July.

(2) The Arabian Sea current was weaker than usual throughout the whole season and was deflected more largely than usual to South India during the first-half of the period.

The south-west monsoon humid currents withdrew from Upper India in the first week of September and hence more than a week earlier than usual.

IV.—The retreating south-west monsoon period.—Northerly winds of the winter monsoon set in over the north and centre of the Arabian Sea in the fourth week of October and extending rapidly southwards were established over the whole of that area as far south as Latitude 8° or 7° N. by the beginning of November.

The retreating monsoon over the Bay was feeble during the second fortnight of October, but increased rapidly in the first week of November and was of normal intensity from the 10th until about the 13th or 14th of December, when it withdrew completely from the south of the Bay.

The following gives the more important features of the air movement in the Indian area during this period :—

(1) Winds were stronger and steadier than usual on the mean of the period in the Bay Islands. They, however, varied irregularly in direction from month to month, being much more westerly than usual in October and slightly more easterly in December.

The following data illustrate these features :—

Station.	October.			November.			December.			Mean of period, October to December.	
	Variation of mean wind steadiness from normal.	Westerly deflection.	Variation of mean wind velocity per diem from normal.	Variation of mean wind steadiness from normal.	Southerly deflection.	Variation of mean wind velocity per diem from normal.	Variation of mean wind steadiness from normal.	Easterly deflection.	Variation of mean wind velocity per diem from normal.	Variation of mean wind steadiness from normal.	Variation of mean wind velocity per diem from normal.
		°			°			°			
Port Blair .	+30	+63	+28	+24	+35	+4	0	+3	—22	+18	+3
Cocos Island .	+13	+90	?	+43	+15	?	0	+17	?	+19	?

(2) Winds were very steady, but feebler than usual over the greater part of Northern India throughout the period as is shown by the following data :—

Area.	Percentage variation from normal of wind steadiness in				Percentage variation from normal of mean daily air movement in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Bengal . . .	+21	+2	+15	+13	—6	+27	—3	+6
Bihar . . .	+26	—23	—35	—11	+6	—39	—53	—29
Chota Nagpur . .	+8	+2	+15	+8	—63	0	+9	—18
United Provinces of Agra and Oudh.	+3	+1	+8	+4	—13	—11	—15	—13
Punjab . . .	—1	0	+9	+3	—19	—31	—33	—28
Sind	+5	+3	—4	+1	—12	—33	—41	—29
Rajputana . . .	+25	+3	—21	+2	—6	—1	—12	—6

(3) The air movement was stronger than usual over the north and centre of the Peninsula, and was more or less below its normal intensity in South India and in the Konkan and Coromandel Coast districts.

The following gives data for these areas :—

Area.	Percentage variation from normal of mean daily air movement in			
	October.	November.	December.	Period, October to December.
Central Provinces . .	+31	+18	—11	+13
Berar	+11	+9	+3	+8
Bombay Deccan . .	+14	+15	+22	+17
West Coast . . .	—8	—7	—6	—7
Madras Deccan . .	+10	—2	+8	+5
Madras Coast . .	—18	—14	+1	—10
Mysore	—14	—9	+3	—7
South India . . .	—33	—46	—17	—32

(4) The air movement was also steadier than usual over the whole of that area, except in the Konkan coast districts, as is shown below :—

Area.	Variation from normal of mean daily wind steadiness in			
	October.	November	December.	Period, October to December.
Central Provinces . .	+1	+15	—4	+4
Berar	—1	+22	+13	+11
Bombay Deccan . .	+34	+9	+3	+15
West Coast . . .	0	—11	—13	—8
Madras Deccan . .	+3	—6	+7	+1
Madras Coast . .	+2	—5	+10	+2
Mysore	+11	—2	+2	+4
South India . . .	+6	—16	+16	+2

(5) Winds were unusually northerly on the Coromandel Coast in October and more directly from the east than usual during the remaining two months of the period.

Humidity.

The variations of the mean monthly and annual aqueous vapour pressure and humidity values from the calculated normals for the year 1901 are given in Tables XVI and XVII. The normal values employed in the determination of the variations are given in Tables XIII and XIV of the Annual Summary for the year 1896. Tables XVIII to XXI give variation data of aqueous vapour pressure and relative humidity for each month of the year and for the year—

1st.—For sixteen meteorological areas adopted in the geographical summaries of meteorological data in the annual reports issued by the department previous to 1891.

2nd.—For nine meteorological provinces of the Empire.

TABLE XVI.—*Comparison of the monthly mean vapour pressure data of 1901 with the averages of past years.*

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
BURMA COAST AND BAY ISLANDS.	Port Blair	+·064	+·073	+·049	+·049	−·012	0	+·018	+·017	+·028	−·004	−·008	−·041	+·019
	Rangoon	0	+·087	−·015	−·011	+·001	+·015	+·012	0	+·013	−·026	+·007	−·045	+·003
	Diamond Island	+·035	+·077	−·006	+·008	+·001	+·016	+·003	+·009	+·033	+·018	+·052	−·027	+·018
	Cocos Island	+·025	+·074	−·012	−·002	+·005	+·001	−·003	−·001	+·028	+·001	+·047	−·023	+·012
BENGAL AND ORISSA	Chittagong	−·035	−·038	−·090	−·007	−·032	+·036	−·005	+·012	+·015	+·021	+·012	+·003	−·009
	Calcutta (Alipore)	+·017	+·025	−·106	−·038	−·048	+·008	+·001	+·001	−·025	+·033	+·002	−·006	−·011
	Saugor Island	−·061	−·019	−·076	+·006	−·011	+·038	0	−·014	−·001	+·033	+·008	−·020	−·010
	False Point	+·004	−·009	−·041	+·029	+·004	+·028	+·030	+·020	+·005	+·064	+·044	−·006	+·014
GANGETIC PLAIN AND CHOTA NAGPUR.	Hazaribagh	+·043	+·112	+·038	−·001	−·007	−·099	−·034	−·013	−·069	+·016	+·004	−·001	−·001
	Darbhanga	+·019	+·063	−·002	−·088	−·049	+·010	+·007	+·013	−·050	+·022	−·008	−·032	−·008
	Allahabad	+·035	+·055	+·043	+·027	+·002	−·156	−·008	+·029	−·016	+·048	−·013	−·018	+·002
UPPER SUB-HIMALAYAS.	Dehra Dun	+·010	−·014	+·041	−·051	−·013	−·184	−·045	+·020	−·031	+·065	+·011	−·027	−·018
	Roorkee	+·023	+·014	+·030	−·059	−·038	−·165	−·060	+·048	−·035	+·030	+·001	−·022	−·019
	Meerut	+·026	+·028	+·022	−·043	−·021	−·201	−·024	+·071	−·076	−·010	−·012	−·032	−·023
	Lahore	+·036	+·037	+·058	+·010	+·019	−·103	−·055	+·050	−·087	+·001	+·013	−·013	−·003
	Ludhiana	+·037	+·016	+·061	−·056	−·018	−·111	−·046	+·036	−·083	−·019	+·039	−·034	−·015
NORTH-WEST FRONTIER, INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Peshawar	+·004	+·007	+·042	−·046	+·005	−·086	−·035	+·016	−·007	+·071	+·031	−·012	−·001
	Jacobabad	+·039	−·021	+·037	−·049	+·076	+·079	+·086	+·063	+·037	+·049	+·039	+·023	+·038
	Kurrachee	+·034	+·007	−·014	−·074	+·009	+·010	+·009	+·016	−·046	+·080	+·020	+·035	+·007
EASTERN RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Jaipur	+·011	+·016	+·009	−·055	−·034	−·135	−·060	+·026	−·119	+·040	+·014	−·017	−·026
	Deesa	−·006	−·075	−·066	−·118	−·029	−·045	−·039	+·028	−·148	+·011	−·085	−·028	−·050
DECCAN	Belgaum	+·043	+·039	+·008	+·042	+·032	+·013	+·017	+·015	+·010	+·014	+·021	+·013	+·022
	Sholapur	+·003	+·008	+·043	+·074	+·038	+·027	+·027	+·028	−·056	−·075	−·038	−·042	−·003

TABLE XVI.—*Comparison of the monthly mean vapour pressure data of 1901 with the averages of past years*— concld.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
DECCAN—*contd.*	Poona	+·010	—·044	—·021	+·009	+·039	—·002	+·024	+·031	—·014	+·017	—·048	—·033	—·003
	Akola	+·049	—·015	+·052	?	+·054	—·003	+·018	+·040	—·038	—·036	—·031	—·065	?
	Buldana	+·012	—·071	+·014	+·021	—·024	—·048	—·002	+·008	—·049	—·040	—·071	—·082	—·028
	Khandwa	+·033	—·058	+·057	—·009	—·004	—·019	+·013	+·018	—·041	—·035	—·036	—·058	—·012
	Nagpur	+·068	+·077	+·139	+·157	+·029	—·041	0	+·021	—·018	—·032	—·055	—·071	+·023
	Hyderabad (Deccan)	+·030	+·077	+·041	—·013	+·045	+·004	+·011	—·001	?	?	?	?	?
WEST COAST	Bombay	—·028	—·120	—·010	+·012	—·007	—·010	+·007	+·011	+·005	+·030	—·026	—·019	—·013
	Karwar	+·054	—·037	+·002	+·021	—·035	—·018	—·004	—·008	+·003	—·004	+·020	—·012	—·002
SOUTH INDIA	Salem	+·022	+·088	—·024	+·008	+·028	+·002	+·012	+·004	+·049	+·014	+·044	+·002	+·021
	Chitaldroog	+·123	+·183	+·078	+·118	+·036	+·036	+·069	+·060	+·087	+·048	+·068	+·049	+·081
	Bangalore	+·048	+·129	—·052	—·008	+·002	—·009	—·006	—·007	+·021	+·011	—·003	—·005	+·010
	Hassan	+·045	+·099	—·042	—·051	—·008	+·004	+·037	+·022	+·017	+·009	+·008	—·023	+·010
	Mysore	+·005	+·101	+·002	—·013	+·046	+·014	+·013	—·024	+·024	+·029	+·010	+·022	+·019
	Madras	+·107	+·095	+·910	+·022	+·017	+·015	+·011	+·040	+·080	+·046	+·046	—·001	+·042
	Bellary	+·001	+·093	+·011	—·052	—·082	—·082	—·066	—·061	—·076	—·076	0	—·042	+·036
HILL STATION, BALUCHISTAN.	Quetta	+·040	—·038	+·002	—·025	+·040	—·078	—·036	—·029	—·034	0	—·007	—·009	—·015
HILL STATIONS, NORTHERN INDIA.	Leh	—·041	—·046	—·041	—·004	—·014	—·032	—·014	+·025	+·005	·007	+·024	—·036	—·015
	Srinagar	+·016	+·034	+·079	+·049	+·090	+·015	+·037	+·117	+·041	+·123	+·049	+·018	+·056
	Kailang	—·012	+·004	—·005	—·012	+·006	—·023	—·010	+·036	—·012	+·007	—·006	—·001	—·002
	Simla (Ridge)	+·006	+·006	+·013	—·067	—·024	—·111	—·067	+·009	—·058	—·020	- ·007	—·021	—·028
	Chakrata	+·007	+·005	+·014	—·035	+·023	—·071	—·033	+·011	—·042	+·027	—·019	—·015	—·011
	Ranikhet	—·008	—·002	+·002	—·054	—·029	—·100	—·003	+·023	—·034	+·040	+·005	—·017	—·013
	Katmandu	+·008	+·014	+·017	—·047	—·027	+·001	+·016	+·042	—·007	+·041	+·009	—·005	+·005
	Darjeeling	—·006	+·011	+·010	- ·020	—·008	+·014	+·008	+·027	+·004	+·040	+·007	?	?
HILL STATIONS, CENTRAL INDIA.	Mount Abu	+·013	—·039	+·002	—·049	+·002	—·013	—·007	+·019	—·071	+·014	—·051	—·010	—·016
	Pachmarhi	+·032	+·019	+·056	+·050	+·005	+·020	+·037	+·016	—·019	—·005	—·024	—·048	+·012
	Chikalda	+·019	—·033	+·015	+·041	+·033	—·033	+·017	+·013	—·022	—·006	- ·049	—·060	—·005
HILL STATION, SOUTHERN INDIA.	Wellington	+·064	+·116	—·015	+·023	+·010	+·001	+·004	+·006	+·045	+·005	+·022	—·019	+·022
EXTRA INDIAN STATIONS.	Aden	+·028	—·088	—·102	—·020	—·009	—·031	—·007	+·005	—·044	+·011	+·028	—·048	—·023
	Perim	+·099	—·006	+·041	+·117	+·183	+·145	+·145	+·149	+·118	+·113	+·118	+·174?	+·116?
	Zanzibar	+·014	0	+·001	+·008	+·010	—·054	+·011	—·021	—·014	—·019	+·002	—·003	—·005
	Port Victoria (Seychelles)	+·006	+·024	+·040	+·053	+·031	+·015	+·042	—·008	—·013	+·013	—·011	—·008	+·015
	Mauritius (Pamplemousses).	—·006	—·007	+·047	—·003	+·018	+·001	+·024	—·009	—·018	+·010	—·002	+·024	+·007

TABLE XVII.—*Comparison of the monthly mean relative humidity data of 1901 with the averages of past years.*

Meteorological Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands.	Port Blair	+1	+1	−1	−3	0	−3	−1	−1	−2	0	+3	−5	0
	Rangoon	−4	+3	−4	−3	+1	−2	0	+1	−3	+1	−4	−2	−1
	Diamond Island	−3	+2	−4	−2	+3	−4	−1	0	−4	0	−1	−5	−2
	Cocos Island	−3	+1	−4	−5	−3	−1	−1	−2	−4	0	+1	−2	−2
Bengal and Orissa	Chittagong	−4	−9	−12	+1	−7	−2	−4	−2	0	+1	+2	+2	−3
	Calcutta (Alipore)	+1	+1	−12	−7	−6	−6	−2	−3	−4	−4	−1	−4	−4
	Saugor Island	−2	0	−7	0	−4	−2	−1	−3	−2	−1	+2	−2	−2
	False Point	0	−1	−6	0	−4	−5	0	+1	−2	+1	+5	−3	−1
Gangetic Plain and Chota Nagpur.	Hazaribagh	+15	+21	+6	−1	0	−21	−8	−3	−10	−4	−1	−3	−1
	Darbhanga	+8	+8	0	−9	−2	−1	−1	−1	−6	−6	−4	−7	−2
	Allahabad	+11	+8	+6	+2	−2	−21	−10	0	−3	−3	−6	−5	−2
Upper Sub-Himalayas.	Dehra Dun	+7	0	+6	−3	+1	−24	−8	+2	−2	+3	−1	−6	−2
	Roorkee	+10	+2	+4	−4	−1	−16	−8	+6	−3	+3	0	−2	0
	Meerut	+10	+7	+4	−3	−4	−19	−4	+7	−8	−4	−3	−6	−2
	Lahore	+13	+10	+6	+5	+4	−6	0	+2	−6	−2	+1	−2	+2
	Ludhiana	+11	+4	+6	−5	−1	−12	−3	−1	−8	−6	+2	−8	−2
North-West Frontier, Indus Valley and North-West Rajputana.	Peshawar	+4	+2	+3	−3	+4	−5	−6	−7	0	+4	+1	−5	0
	Jacobabad	+9	+1	−1	−5	+3	−1	+2	+1	+4	0	+4	+4	+2
	Kurrachee	+6	+4	−6	−14	−3	−5	−3	0	−3	+4	−4	+1	−2
East Rajputana, Central India and Gujarat.	Jaipur	+8	+6	−1	−6	−5	−16	−12	−1	−16	−3	−5	−8	−5
	Deesa	+4	−5	−5	−8	+1	−6	−12	0	−17	−5	−14	−8	−6
Deccan	Belgaum	+5	+10	+3	+7	+7	+2	+1	+1	−4	+2	+2	+3	+3
	Sholapur	−2	+3	+3	+8	+4	−1	+2	+4	−10	−12	−8	−8	−1
	Poona	+6	+1	+1	+5	+8	−1	+1	+4	−4	+2	−2	−1	+2
	Akola	+8	0	+7	?	+3	−4	+1	+8	−7	−5	−3	−8	?
	Buldana	+5	−5	+3	+4	−3	−8	−2	+4	−8	−8	−9	−13	−3
	Khandwa	+8	−5	+3	−2	−3	−8	−2	+2	−9	−11	−8	−11	−3
	Nagpur	+9	+12	+15	+14	+3	−8	−2	+7	−4	−7	−8	−10	+2
	Hyderabad (Deccan)	−3	+9	+4	−1	+7	−1	+3	−2	?	?	?	?	?
West Coast	Bombay	−2	−9	−2	−2	−5	−1	0	+1	−4	+2	−6	−6	−3
	Karwar	+2	−6	−3	−2	−4	−1	−4	−4	−3	−1	−3	−4	−3

TABLE XVII.—*Comparison of the monthly mean relative humidity data of 1901 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
South India	Salem	− 5	+ 3	+ 1	+ 1	+ 1	− 5	0	− 2	+ 2	− 2	0	− 1	0
	Chitaldroog	+ 7	+19	+ 4	+ 6	+ 4	+ 1	+ 6	+ 6	+ 5	+ 3	+ 2	+ 7	+ 6
	Bangalore	− 1	+13	− 2	0	+ 1	− 1	− 1	− 3	− 2	− 1	− 3	+ 2	0
	Hassan	+ 2	+10	− 7	− 8	− 2	− 3	+ 3	+ 1	− 2	+ 1	− 1	0	− 1
	Mysore	− 5	+ 8	0	− 4	+ 3	0	0	− 4	0	+ 3	+ 3	+ 5	+1
	Madras	+ 5	+ 1	+ 2	+ 2	0	− 3	− 1	+ 2	+ 5	0	+ 4	+ 2	+ 2
	Bellary	− 5	+10	+ 2	− 4	− 3	− 7	− 7	− 6	−10	−11	− 2	− 5	− 4
Hill Station, Baluchistan.	Quetta	+15	− 6	− 4	+ 1	+ 8	− 1	− 3	− 4	− 7	+ 2	− 3	− 2	0
Hill Stations, Northern India.	Leh	−27	−30	−26	− 1	− 3	− 2	+ 2	+ 2	+ 2	− 6	+ 6	−23?	− 9?
	Srinagar	+ 6	+ 7	+ 8	+14	+14	+10	+ 3	+ 4	+ 3	+ 5	0	+ 1	+ 6
	Kailang	+ 6	+ 7	+ 1	+ 4	+ 2	+ 1	+ 2	+ 3	0	− 8	− 6	− 3	0
	Simla (Ridge)	+15	+14	+ 6	− 9	− 1	−19	−12	+ 3	− 3	− 6	− 3	− 3	− 2
	Chakrata	+12	+ 9	+ 4	− 5	+ 4	−17	− 6	+ 4	− 3	0	−10	− 5	− 1
	Ranikhet	+ 9	+ 2	+ 2	− 9	− 6	−21	− 4	+ 3	− 5	+ 1	− 2	− 3	− 3
	Katmandu	+ 5	+ 2	+ 2	− 8	− 3	− 2	+ 1	+ 1	0	− 1	− 3	− 3	0
	Darjeeling	+ 8	− 5	+ 3	− 9	− 4	− 2	− 2	− 1	− 1	+ 4	− 5	?	?
Hill Stations, Central India.	Mount Abu	+ 8	− 3	− 3	− 7	− 2	− 7	− 7	+ 1	−13	− 4	−12	− 6	− 5
	Pachmarhi	+12	+ 5	+ 8	+ 5	− 2	− 7	+ 1	+ 5	− 4	− 5	− 5	− 9	0
	Chikalda	+ 8	− 1	+ 4	+ 6	+ 2	−13	− 1	+ 3	− 8	− 6	− 9	−11	− 2
Hill Station, Southern India.	Wellington	+ 3	+14	− 3	+ 3	+ 2	− 1	− 1	− 1	+ 4	− 4	− 1	− 9	+ 1
Extra Indian Stations.	Aden	− 2	− 7	− 7	− 4	− 4	0	− 7	− 1	− 4	+ 2	0	− 4	− 3
	Perim	+ 6	+ 1	+ 6	+15	+11	+11	+ 9	+ 9	+ 9	+ 9	+12	+18	+10
	Zanzibar	− 2	+ 5	− 3	+ 1	+ 2	− 3	+ 1	− 2	0	− 1	0	0	0
	Port Victoria (Seychelles)	+ 1	+ 4	+ 3	+ 5	+ 4	+ 3	+ 7	+ 3	+ 4	+ 3	− 1	+ 2	+ 3
	Mauritius (Pamplemouses).	− 2	0	+ 2	+ 1	− 1	0	+ 2	0	− 1	+ 1	+ 1	+ 3	+ 1

TABLE XVIII.—*Geographical summary of the aqueous vapour pressure data of Table II in the monthly weather reviews of 1901.*

Meteorological Area.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalaya	6	−·005	0	+·010	−·021	+·009	−·054	−·015	+·037	−·017	+·028	+·008	−·012	−·003
Sikkim Himalaya and Nepal	1—2	+·001	+·013	+·014	−·034	−·018	+·008	+·052	+·035	−·002	+·041	+·008	−·005	+·009

TABLE XVIII.—*Geographical summary of the aqueous vapour pressure data of Table II in the monthly weather reviews of 1901*—concld.

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Punjab Plains	3	+·026	+·020	+·054	—·031	+·002	—·100	—·045	+·034	—·059	+·030	+·028	—·020	—·005
Gangetic Plain	5	+·023	+·029	+·027	—·043	—·024	—·139	—·026	+·036	—·042	+·031	—·004	—·026	—·013
Western Rajputana	4	+·020	—·032	—·010	—·073	+·015	+·008	+·012	+·032	—·057	+·039	—·019	+·005	—·005
Eastern Rajputana and Central India	1	+·011	+·016	+·009	—·055	—·034	—·135	—·060	+·026	—·119	+·040	+·014	—·017	—·026
Nerbudda Valley	1	+·033	—·038	+·057	—·009	—·004	—·019	+·013	+·018	—·041	—·035	—·036	—·038	—·012
Chota Nagpur	1	+·043	+·112	+·038	—·001	—·007	—·099	—·034	—·013	—·069	+·016	+·004	—·001	—·001
Lower Bengal	2	—·022	+·003	—·091	—·016	—·030	+·023	+·001	—·007	—·013	+·033	+·005	—·013	—·011
Orissa	1	+·004	—·009	—·041	+·029	+·004	+·028	+·030	+·020	+·005	+·064	+·044	—·006	+·014
Central Provinces (South) and Berar	4—5	+·036	—·005	+·055	+·067	+·019	—·021	+·014	+·020	—·029	—·024	—·046	—·065	+·002
Konkan	2	+·013	—·079	—·004	+·017	—·021	—·014	+·002	+·002	+·004	+·013	—·003	—·016	—·007
Deccan, Hyderabad and Mysore	8—9	+·034	+·076	+·008	+·012	+·019	+·001	+·014	+·007	+·002	—·003	+·002	—·008	+·014
East Coast and Carnatic	2	+·065	+·092	—·007	+·015	+·023	+·019	+·012	+·022	+·065	+·030	+·045	+·001	+·032
Arakan and Pegu	3—4	0	+·042	—·037	—·003	—·010	+·019	+·002	—·003	+·026	+·029	+·032	—·007	+·008
Bay Islands	2	+·045	+·074	+·019	+·024	—·004	+·001	+·008	+·008	+·028	—·002	+·020	—·032	+·016
Extra-Tropical India	25—26	+·011	+·007	+·009	—·033	—·005	—·056	—·010	+·028	—·037	+·031	+·003	—·014	—·006
Tropical India	23—25	+·029	+·045	+·010	+·021	+·010	—·001	+·010	+·009	+·009	+·003	+·001	—·022	+·010
Whole India	49—51	+·019	+·025	+·009	—·007	+·002	—·029	0	+·019	—·015	+·017	+·002	—·018	+·002

TABLE XIX.—*Geographical summary of the humidity data of Table II in the monthly weather reviews of 1901.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalaya	6	+4	+2	—1	—1	+2	—8	—3	—3	—1	—2	—3	—6	—2
Sikkim Himalaya and Nepal	1—2	+7	—2	+3	—9	—4	—2	—1	0	—1	—2	—4	—3	—2
Punjab Plains	3	+9	+5	+5	—1	+2	—8	—3	—2	—5	—1	+1	—5	0
Gangetic Plain	5	+9	+5	+4	—3	—2	—16	—6	+3	—4	—1	—3	—5	—2
Western Rajputana	4	+7	—1	—4	—9	0	—5	—5	+2	—7	—1	—7	—2	—3
Eastern Rajputana and Central India	1	+8	+6	—1	—6	—5	—16	—12	—1	—16	—3	—5	—8	—5
Nerbudda Valley	1	+8	—5	+3	—2	—3	—8	—2	+2	—9	—11	—8	—11	—3
Chota Nagpur	1	+15	+21	+6	—1	0	—21	—8	—3	—10	—4	—1	—3	—1
Lower Bengal	2	—1	+1	—10	—4	—5	—4	—2	—3	—3	—3	+1	—3	—3

TABLE XIX.—*Geographical summary of the humidity data of Table II in the monthly weather reviews of 1901*—concld.

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Orissa	1	0	−1	−6	0	−4	−5	0	+1	−2	+1	+5	−3	−1
Central Provinces (South) and Berar	4−5	+8	+2	+7	+7	+1	−8	−1	+5	−6	−6	−7	−10	−1
Konkan	2	0	−8	−3	−2	−5	−1	−2	−2	−4	+1	−5	−5	−3
Deccan, Hyderabad and Mysore	8−9	0	+9	+1	+1	+3	−1	+1	0	−3	−1	−1	0	+1
East Coast and Carnatic	2	0	+2	+2	+2	+1	−4	−1	0	+4	−1	+2	+1	+1
Arakan and Pegu	3−4	−4	−1	−7	−1	−1	−2	−1	+1	−1	+2	0	+1	−1
Bay Islands	1−2	−1	+1	−3	−3	−2	−2	−1	−2	−3	0	+2	−4	−2
Extra-Tropical India	25−26	+6	+3	0	−4	−1	−9	−4	+1	−4	−2	−3	−5	−2
Tropical India	22−25	+3	+4	+1	+2	+1	−3	0	+1	−3	−1	−2	−3	0
Whole India	48−51	+4	+3	0	−1	0	−6	−2	+1	−4	−2	−2	−4	−1

TABLE XX.—*Variations of the mean monthly aqueous vapour pressure from the normal in nine meteorological provinces of India in 1901.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	+·033	+·079	+·009	+·011	−·001	+·008	+·007	+·002	+·029	+·017	+·031	−·019	+·017
Bengal and Orissa	−·019	−·010	−·073	−·003	−·022	+·028	+·007	+·005	−·002	+·038	·031	−·007	−·003
Gangetic Plain and Chota Nagpur.	+·032	+·077	+·026	−·021	−·018	−·082	−·012	+·010	−·045	+·029	−·006	−·017	−·002
Upper Sub-Himalayas	+·026	+·016	+·042	−·040	−·014	−·153	−·046	+·045	−·062	+·013	+·010	−·026	−·016
North-West Fontier, Indus Valley and North-West Rajputana.	+·026	−·002	+·022	−·056	+·030	0	+·020	+·032	−·005	+·067	+·030	+·015	+·015
East Rajputana, Central India and Gujarat.	+·003	−·030	−·029	−·087	−·032	−·090	−·050	+·027	−·134	+·026	−·036	−·023	−·038
Deccan	+·031	+·001	+·042	+·040	+·026	−·009	+·014	+·020	−·029	−·027	−·037	−·048	+·002
West Coast	+·013	−·079	−·004	+·017	−·021	−·014	+·002	+·002	+·004	+·013	−·003	−·016	−·007
South India	+·050	+·113	−·002	+·003	+·008	−·003	+·010	+·005	+·029	+·012	+·012	0	+·020

TABLE XXI.—*Variations of the mean monthly relative humidity from the normal in nine meteorological provinces of India in 1901.*

Meteorological Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands	−2	+2	−3	−3	0	−2	0	0	−2	+1	0	−1	−1
Bengal and Orissa	−1	−2	−9	−2	−5	−4	−2	−2	−2	−1	+2	−2	−3
Gangetic Plain and Chota Nagpur	+11	+12	+4	−3	−1	−14	−6	−1	−6	−4	−4	−5	−1
Upper Sub-Himalayas	+10	+5	+5	−2	0	−15	−5	+3	−5	−1	0	−5	−1
North-West Frontier, Indus Valley and North-West Rajputana	+6	+2	−1	−7	+1	−4	−2	−2	0	+3	0	0	0
East Rajputana, Central India and Gujarat	+6	+1	−3	−7	−2	−11	−12	−1	−17	−4	−10	−8	−6
Deccan	+5	+3	+5	+5	+3	−4	0	+4	−7	−6	−5	−7	0
West Coast	0	−8	−3	−2	−5	−1	−2	−2	−4	+1	−5	−5	−3
South India	0	+9	0	−1	+1	−3	0	−1	0	−1	0	+1	0

I.—The cold weather period.—During the first three weeks of January and throughout February the weather was unusually unsettled, cold and rainy over the greater part of the Indian region, and consequently the vapour pressure and humidity were in general excess. In January the excess was considerable over the whole of Northern India, and was most marked in the Gangetic Plain and Chota Nagpur. In February the excess was mainly confined to the upper submontane regions, West Bengal and the greater part of the Peninsula. The following gives data :—

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February
	"	"	"			
Burma Coast	+·018	+·082	+·050	−4	+3	0
Bengal	−·026	−·011	−·018	−2	−3	−2
Orissa	+·004	−·009	−·002	0	−1	0
Bihar	+·019	+·063	+·041	+8	+6	+8
Chota Nagpur	+·043	+·112	+·078	+15	+21	+18
United Provinces of Agra and Oudh	+·024	+·021	+·022	+10	+4	+7
Punjab	+·026	+·020	+·023	+9	+5	+7
Sind	+·037	−·007	+·015	+7	+3	+5

Area.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Rajputana	+·003	−·030	−·013	+6	+1	+3
Central Provinces	+·051	+·010	+·030	+9	+4	+6
Berar	+·031	−·043	−·006	+7	−3	+2
Bombay Coast	+·013	−·079	−·033	0	−8	−4
Bombay Deccan	+·019	+·001	+·010	+3	+5	+4
Madras Coast	+·107	+·095	+·101	+5	+1	+3
Madras Deccan	+·016	+·085	+·046	−4	+10	+2
Mysore	+·055	+·128	+·104	+1	+13	+7
South India	+·022	+·088	+·055	−5	+3	−1

The relative humidity was most largely above the normal in the areas represented by the following stations:—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Hazaribagh	+·043	+·112	+·077	+15	+21	+18
Allahabad	+·035	+·055	+·045	+11	+8	+9

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Meerut	+·026	+·028	+·027	+10	+7	+8
Lahore	+·036	+·037	+·036	+13	+10	+11
Jaipur	+·011	+·016	+·013	+8	+6	+7
Nagpur	+·068	+·077	+·072	+9	+12	+10
Chitaldroog	+·123	+·183	+·153	+7	+19	+13

The air was somewhat drier than usual in the centre and south of the Peninsula and in Burma in January, and in Upper Burma and Gujarat in February. The variations from normal in these areas were, however, generally small.

The variations from the normal at the hill stations in Upper India were positive and were generally moderate to considerable. The following gives data:—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Srinagar	+·016	+·034	+·025	+6	+7	+6
Kaifang	—·012	+·004	—·004	+6	+7	+6
Simla	+·006	+·006	+·006	+15	+14	+14
Chakrata	+·007	+·005	+·006	+12	+9	+10
Ranikhet	—·008	—·002	—·005	+9	+2	+5
Katmandu	+·008	+·014	+·011	+5	+2	+3

At Leh, however, the air was considerably drier than usual. The following gives data:—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"				
Leh	—·041	—·046	—·043	—27	—30	—28

Unusually low humidities were reported during the period. The following below 9 may be noted:—

Station.	Date.	Hour.	Lowest humidity recorded during January and February.
			%
	3rd January	10 A.M. & 4 P.M.	0
	4th "	4 P.M.	0
	5th "	10 A.M. & 4 P.M.	0
	6th "	10 A.M.	0
	10th "	10 A.M. & 4 P.M.	0
	11th "	4 P.M.	0
Leh	16th "	10 A.M. & 4 P.M.	0
	17th "	10 A.M.	0
	22nd "	"	0
	24th "	10 A.M. & 4 P.M.	0
	29th "	10 A.M.	0
	30th "	"	0
	31st "	"	0
Kodaikanal	2nd February	8 A.M.	5
Leh	4th "	"	0
Poona	8th "	4 P.M.	8
Leh	" "	10 A.M.	0
"	9th "	10 A.M. & 4 P.M.	0
"	10th "	" "	0
Poona	12th "	4 P.M.	4
Leh	" "	"	0
"	13th "	"	0
Poona	" "	"	6
Deesa	" "	"	8
"	14th "	"	8
Poona	" "	"	4
Leh	" "	10 A.M.	0
Poona	15th "	4 P.M.	6
Jamnagar	16th "	"	7
Deesa	" "	"	8
Poona	22nd "	"	5
Buldana	" "	"	5
Poona	23rd "	10 A.M.	7
Deesa	24th "	4 P.M.	5
Leh	25th "	"	0
"	26th "	10 A.M. & 4 P.M.	0

Station.	Date.	Hour.	Lowest humidity recorded during January and February.
			%
Deesa	26th February	4 P.M.	6
Udaipur	" "	"	8
Deesa	27th "	"	6
Jamnagar	28th "	"	6

II.—The hot weather period.—The variations of the humidity from normal were well marked in March and April, but only slightly marked in May. In the former two months the humidity was in moderate to considerable excess over the head of the Peninsula, while it was in more or less marked defect in Bengal and Burma on the east, and in East Rajputana, Central India and Gujarat and the Indus Valley and North-West Rajputana on the west. In May the only variation from normal calling for special remark was the slight excess shown in the Deccan.

The following data illustrate these features :—

Meteorological Province.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
	"	"	"	"				
Burma Coast and Bay Islands	+·009	+·011	—·001	+·006	—3	—3	0	—2
Bengal and Orissa	—·078	—·003	—·022	—·034	—9	—2	—5	—5
Gangetic Plain and Chota Nagpur	+·026	—·021	—·018	—·004	+4	—3	—1	0
Indus Valley and North-West Rajputana	+·022	—·056	+·030	—·001	—1	—7	+1	—2
East Rajputana, Central India and Gujarat	—·029	—·087	—·032	—·049	—3	—7	—2	—4
Deccan	+·042	+·040	+·016	+·036	+5	+5	+3	+4
West Coast	—·004	+·017	—·021	—·003	—3	—2	—5	—3

The following data indicate the decreased humidities obtaining in Bengal and Burma :—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	Mar.	Apl.	May.	Period, Mar. to May.	Mar.	Apl.	May.	Period, Mar. to May.
	"	"	"	"				
Rangoon	—·015	—·011	+·001	—·008	—4	—3	+1	—2
Diamond Island	—·006	+·008	+·001	+·001	—4	—2	+3	—1
Chittagong	—·090	—·007	—·032	—·043	—12	+1	—7	—6
Calcutta	—·105	—·038	—·048	—·064	—12	—7	—6	—8

The following data illustrate the decreased humidities obtaining in Sind, Rajputana and the West Coast :—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	Mar.	Apl.	May.	Period, Mar. to May.	Mar.	Apl.	May.	Period, Mar. to May.
	"	"	"	"				
Jaipur	+·009	—·055	—·034	—·027	—1	—6	—5	—4
Kurrachee	—·014	—·074	+·009	—·026	—6	—14	—3	—8
Deesa	—·066	—·118	—·029	—·071	—5	—8	+1	—4
Bombay	—·010	+·012	—·007	—·002	—2	—2	—5	—3
Karwar	+·002	+·021	—·035	—·004	—3	—2	—4	—3

The following data illustrate the increased humidities obtaining in the Deccan and over the head of the Peninsula :—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	Mar.	Apl.	May.	Period, Mar. to May.	Mar.	Apl.	May.	Period, Mar. to May.
	"	"	"	"				
Belgaum	+·028	+·042	+·032	+·027	+3	+7	+7	+6
Sholapur	+·043	+·074	+·038	+·052	+3	+8	+4	+5
Nagpur	+·139	+·157	+·029	+·108	+15	+14	+3	+11
Chitaldroog	+·078	+·118	+·056	+·084	+4	+6	+4	+5

At Leh the air was drier, and at Srinagar considerably damper than usual. At the Upper India hill stations the variations were irregular, but generally positive in March

and negative in April and irregular in May. The following gives data:—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	Mar.	Apl.	May.	Period, Mar. to May.	Mar.	Apl.	May.	Period, Mar. to May.
	"	"	"					
Leh	—·041	—·004	—·014	—·020	—26	—1	—3	—10
Srinagar	+·079	+·049	+·090	+·073	+8	+14	+14	+12
Kailang	—·005	—·012	+·006	—·004	+1	+4	+2	+2
Simla	+·013	—·067	—·024	—·026	+6	—9	—1	—1
Chakrata	+·014	—·035	+·023	+·001	+4	—5	+4	+1
Ranikhet	+·002	—·054	—·029	—·027	+2	—9	—6	—4

The driest periods during the hot weather of 1901 were from the 14th to the 19th March, the 10th to the 18th April and the 19th to the 25th May. The following humidities of 3 or under were recorded during these periods:—

Station.	March 1901.			April 1901.			May 1901.		
	Date.	Hour.	Lowest humidity.	Date.	Hour.	Lowest humidity.	Date.	Hour.	Lowest humidity.
			%			%			%
Deesa	15th	4 P.M.	1	17th	10A.M.	3			
				18th	"	2			
				17th	4 P.M.	0			
				18th	"	3			
Leh	19th	From minimum	0	10th	10A.M. and 4 P.M.	0	19th	10A.M.	0
	1st	4 P.M.	0						
	14th	"	0						
	17th	"	0						
	16th	"	2						
Roorkee							24th	4 P.M.	2
Montgomery							25th	8 A.M.	0

III.—The south-west monsoon period.—The variations in the humidity conditions of the period were determined by the variations in the strength and rain-giving capacity of the monsoon currents. The following are the more important features: —

In consequence of the lateness of the advance of the monsoon currents, the air was very much drier than usual in June over practically the whole Indian region, and in July over the greater part of India north of Lat. 20° N.

The following gives data in illustration:—

Meteorological Province.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	June.	July.	Period, June and July.	June.	July.	Period, June and July.
	"	"	"			
Bengal and Orissa	+·028	+·007	+·017	—4	—2	—3
Gangetic Plain and Chota Nagpur.	—·082	—·012	—·047	—14	—6	—10
Upper Sub-Himalayas	—1·53	—·046	—·099	—15	—5	—10
North-West Frontier, Indus Valley and North-West Rajputana.	0	+·020	+·010	—4	—2	—3
East Rajputana, Central India and Gujarat.	—·090	—·050	—·070	—11	—12	—11
Deccan	—·009	+·014	+·003	—4	0	—2
West Coast	—·014	+·002	—·006	—1	—2	—2
South India	—·003	+·010	+·004	—3	0	—2

The deficiency was most marked at the following stations in these areas:—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	June.	July.	Period, June and July.	June.	July.	Period, June and July.
	"	"	"			
Calcutta	+·008	+·001	+·004	—6	—2	—4
Hazaribagh	—·099	—·034	—·066	—21	—8	—15
Allahabad	—·156	—·008	—·082	—21	—10	—15
Dehra Dun	—·184	—·045	—·114	—24	—8	—16
Roorkee	—·165	—·060	—·112	—16	—8	—12
Meerut	—·201	—·024	—·112	—19	—4	—11
Ludhiana	—·111	—·046	—·078	—12	—3	—7
Jaipur	—·135	—·060	—·097	—16	—12	—14
Deesa	—·045	—·039	—·042	—6	—12	—9
Buldana	—·048	—·002	—·025	—8	—2	—5
Khandwa	—·019	+·013	—·003	—8	—2	—5
Nagpur	—·041	0	—·020	—8	—2	—5

In other parts of India the variations from normal were inconsiderable. The following gives data in illustration:—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	June.	July.	Period, June and July.	June.	July.	Period, June and July.
	"	"	"			
Rangoon	+·015	+·012	+·013	—2	0	—1
Cocos Island	+·001	—·003	—·001	—1	—1	—1
Darbhanga	+·010	+·007	+·008	—1	—1	—1

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	June.	July.	Period, June and July.	June.	July.	Period, June and July.
	"	"	"			
Jacobabad . . .	+·079	+·086	+·082	—1	+2	0
Bombay . . .	—·010	+·007	—·001	—1	0	0
Poona . . .	—·002	+·024	+·011	—1	+1	0
Belgaum . . .	+·013	+·017	+·015	+2	+1	+1
Sholapur . . .	+·027	+·027	+·027	—1	+2	+2
Hyderabad (Deccan) .	+·004	+·011	+·007	—1	+3	+1
Bangalore . . .	—·009	—·006	—·007	—1	—1	—1
Madras . . .	+·015	+·011	+·013	—3	—1	—2

In August the monsoon currents were of about normal strength, but were unusually weak in September. In August, consequently, the humidity conditions were practically normal everywhere, but in September the air was much drier than usual over the greater part of India, the defect from normal being greatest in East Rajputana, Central India and Gujarat. The following gives data in illustration:—

Meteorological Province.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
	"	"	"			
Burma Coast and Bay Islands.	+·002	+·029	+·015	0	—2	—1
Bengal and Orissa .	+·005	—·002	+·001	—2	—2	—2
Gangetic Plain and Chota Nagpur.	+·010	—·045	—·017	—1	—6	—3
Upper Sub-Himalayas.	+·045	—·062	—·008	+3	—5	—1
North-West Frontier, Indus Valley and North-West Rajputana.	+·032	—·005	+·013	—2	0	—1
East Rajputana, Central India and Gujarat.	+·027	—·134	—·053	—1	—17	—9
Deccan . . .	+·020	—·029	—·004	+4	—7	—1
West Coast . .	+·002	+·004	+·003	—2	—4	—3
South India . .	+·005	+·029	+·017	—1	0	0

The variations from normal were greatest at the stations for which data are given below:—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
	"	"	"			
Hazaribagh . .	—·013	—·069	—·041	—3	—10	—6
Meerut . . .	+·071	—·076	—·002	+7	—8	0
Ludhiana . . .	+·036	—·083	—·023	—1	—8	—4
Jaipur . . .	+·026	—·119	—·046	—1	—16	—8
Deesa . . .	+·028	—·148	—·060	0	—17	—8
Khandwa . . .	+·018	—·041	—·011	+2	—9	—3
Sholapur . . .	+·028	—·056	—·014	+4	—10	—3
Bellary . . .	—·061	—·076	—·068	—6	—10	—8

The variations from normal were slight during the period in Burma, the Indus Valley and North-West Rajputana, and in South India. The following gives data:—

Meteorological Province.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
	"	"	"			
Burma Coast and Bay Islands.	+·002	+·029	+·015	0	—2	—1
North-West Frontier, Indus Valley and North-West Rajputana.	+·032	—·005	+·013	—2	0	—1
South India . .	+·005	+·029	+·017	—1	0	0

The following gives data for representative stations in these areas:—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
	"		"			
Port Blair . .	+·017	+·028	+·022	—1	—2	—1
Rangoon . .	0	+·013	+·006	+1	—3	—1

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
	"	"	"			
Chittagong	+·012	+·015	+·013	—2	0	—1
Peshawar	+·016	—·007	+·004	—7	0	—3
Jacobabad	+·063	+·037	+·050	+1	+4	+2
Kurrachee	+·016	—·046	—·015	0	—3	—1
Salem	+·004	+·049	+·026	—2	+2	0
Hassan	+·022	+·017	+·019	+1	—2	0
Chitaldroog	+·060	+·087	+·073	+6	+5	+5
Madras	+·040	+·080	+·060	+2	+5	+3

At the Upper India hill stations the humidity was in slight excess in August and in slight defect in September. In Kashmir and Ladakh the humidity was excessive in both months. The following gives data :—

Station.	Variation of mean absolute humidity from normal in			Variation of mean relative humidity from normal in		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
	"	"	"			
Leh	+·925	+·005	+·015	+2	+2	+2
Srinagar	+·117	+·041	+·079	+4	+3	+3
Simla	+·009	—·058	—·024	+3	—3	0
Chakrata	+·011	—·042	—·015	+4	—3	0
Ranikhet	+·023	—·034	—·005	+3	—5	—1
Katmandu	+·042	—·027	+·017	+1	0	0

IV.—The retreating south-west monsoon period.—Throughout this period humidity conditions were approximately normal over Burma, except Arakan, the coast districts of the Peninsula, and in the Indus Valley and North-West Punjab, but were slightly to moderately abnormal in the interior of the country, where the air was drier than usual. The following gives data for stations in the areas where conditions were practically normal :—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"	"				
Cocos Island	+·001	+·047	—·023	+·008	0	+1	—2	0
Rangoon	—·026	+·007	—·045	—·021	+1	—4	—2	—2

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"	"				
Chittagong	+·021	+·012	+·003	+·012	+1	+2	+2	+2
Saugor Island	+·033	+·008	—·020	+·007	—1	+2	—2	0
Madras	+·046	—·046	—·001	0	0	+4	+2	+2
Salem	+·014	+·044	+·002	+·020	—2	0	—1	—1
Hassan	+·009	+·008	—·023	—·002	+1	—1	0	0
Karwar	—·004	+·020	—·012	+·001	—1	—3	—4	—3
Belgaum	+·014	+·021	+·013	+·016	+2	+2	+3	+2
Kurrachee	+·080	+·020	+·035	+·045	+4	—4	+1	0
Peshawar	+·071	+·031	—·012	+·030	+4	+1	—5	0
Lahore	+·001	+·013	—·013	0	—2	+1	—2	—1
Roorkee	+·030	+·001	—·022	+·003	+3	0	—2	0

The following gives data for the drier districts in the interior :—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"	"				
Darbhanga	+·022	—·008	—·032	—·006	—6	—4	—7	—6
Allahabad	+·048	—·013	—·018	+·006	—3	—6	—5	—5
Jaipur	+·040	+·014	—·017	+·012	—3	—5	—8	—5
Deesa	+·011	—·085	—·028	—·034	—5	—14	—8	—9
Buldana	—·040	—·071	—·082	—·064	—8	—9	—13	—10
Khandwa	—·035	—·036	—·058	—·043	—11	—8	—11	—10
Nagpur	—·032	—·055	—·071	—·053	—7	—5	—9	—7
Sholapur	—·075	—·038	—·042	—·052	—12	—8	—8	—9
Bellary	—·076	0	—·042	—·039	—11	—2	—5	—6

During October the areas of greatest dryness were the Deccan and the west of the Central Provinces, where fine weather held practically throughout the month. In these areas not only was the temperature higher than usual, the amount of vapour in the air was also unusually low, and the percentage humidity was consequently in considerable defect.

In November the area of greatest dryness lay over Khandesh and Gujarat, and in December over Berar and the west of the Central Provinces, in both of which areas, during November and December, the rainfall was unusually scanty.

Throughout the period the air was much drier than usual at the hill stations of Upper India and in Ladakh. The following gives data:—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"					
Leh	—·007	+·024	—·036	—·006	—6	+6	—23?	—8?
Srinagar	+·123	+·049	+·018	+·063	+5	0	+1	+2
Kailang	+·007	—·006	—·001	0	—8	—6	—3	—6
Simla	—·020	—·007	—·021	—·016	—6	—3	—3	—4
Chakrata	+·027	—·019	—·015	—·002	0	—10	—5	—5
Ranikhet	+·040	+·005	—·017	+·009	+1	—2	—3	—1

The year.—The following are the more important features of the mean humidity conditions during the year 1901 in India:—

(1) On the mean of the year the humidity of the whole of India was only in very slight defect, a consequence solely of the unusually high temperatures of the year, for the vapour pressure was in excess by + ·002".

(2) In Extra-Tropical India, however, the humidity was slight defect in consequence of unusually low vapour pressures in that region.

(3) In Tropical India, on the other hand, the amount of vapour in the air was unusually large, but the excessive temperatures prevailing in that region sufficed to reduce the humidity to normal.

(4) On the mean of the year the air was driest over the areas indicated by the stations for which data are given below:—

Station.	Mean variation from normal in 1901 of	
	Absolute humidity.	Relative humidity.
	"	
Jaipur	—·026	—5
Deesa	—·050	—6
Mount Abu	—·016	—5
Buldana	—·028	—3
Khandwa	—·012	—3
Bombay	—·013	—3
Karwar	—·002	—3
Bellary	—·036	—4

The following gives the mean annual variations of the mean aqueous vapour pressure and humidity of the whole of India from the normal for each year from 1875 to 1901:—

Year.	Annual variation of pressure of vapour.	Annual variation of relative humidity.
	"	
1875	—·004	+1
1876	—·017	—1
1877	+·011	+1
1878	+·020	0
1879	—·014	—1
1880	—·004	0
1881	+·001	0
1882	—·008	0
1883	—·013	—1
1884	—·012	0
1885	+·001	0
1886	+·008	+1
1887	—·012	—1
1888	—·005	—1
1889	+·003	—1
1890	—·003	—1
1891	—·007	0
1892	—·002	—1
1893	+·007	+2
1894	+·013	+2
1895	+·003	0
1896	—·010	—3
1897	+·005	—1
1898	—·008	—2
1899	—·026	—5
1900	+·002	—2
1901	+·002	—1

Cloud.

Normal values of the mean monthly and annual amount of cloud at second class stations, obtained from the whole of the available data up to the end of the year 1896, were given in Table XXI of the Annual Summary of 1896. These means are the arithmetical averages of the cloud amounts as registered at 10 A.M. and 4 P.M., and hence represent the mean amount during the day period rather than of the whole 24 hours. Corrections to reduce these means to true daily means have only been obtained in the case of a few stations.

Variation data of this element of meteorological observation for the year 1901 are given in Tables XXII, XXIII and XXIV. Table XXIII gives the mean variation data for the sixteen meteorological areas adopted in the geographical summaries of meteorological data in the Annual Reports previous to 1891, and Table XXIV gives similar data for nine meteorological provinces of India.

TABLE XXII.—*Comparison of the mean cloud proportion in each month of 1901 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands.	Port Blair	+0·4	+1·2	+0·3	+0·6	+0·6	+0·4	+0·2	+0·2	0	+1·3	+1·7	−0·8	+0·5
	Rangoon	+1·3	+1·0	+0·5	−1·3	0	+0·7	+0·6	+0·9	+0·5	+2·4	+1·7	+1·4	+0·8
	Diamond Island	−1·0	−0·2	−2·0	−1·8	+1·0	+0·3	+0·8	+0·7	−0·5	+1·2	−0·1	−0·8	−0·2
	Cocos Island	−0·5	−0·4	−0·8	−1·4	+0·3	+0·2	+0·5	+0·2	−0·7	+1·8	+0·8	+0·7	+0·1
	Akyab	+0·3	+0·8	+1·1	+0·7	−0·1	+0·8	−0·4	+0·3	−1·3	−0·5	+0·1	−0·9	+0·1
Bengal and Orissa	Chittagong	+0·6	−0·2	−1·1	+1·6	−0·5	+0·8	0	+0·7	+0·1	+0·5	+0·9	+0·4	+0·3
	Calcutta (Alipore)	+1·6	+1·6	−0·8	+1·7	−0·9	−0·6	+0·1	+0·1	−0·8	−0·4	+1·2	+0·7	+0·3
	Saugor Island	+1·4	+0·6	−1·6	+0·9	−1·2	−0·5	+0·2	+0·3	−0·2	+0·2	+1·3	+1·3	+0·2
	False Point	+1·4	+0·6	−0·2	+1·6	−1·1	−0·7	+0·5	+0·8	+0·1	+0·7	+1·3	−0·5	+0·4
Gangetic Plain and Chota Nagpur	Hazaribagh	+3·0	+3·7	−0·5	+2·2	+0·7	−0·6	+0·2	+0·8	−1·3	−0·1	+0·5	+1·0	+0·8
	Darbhanga	+1·2	+1·8	−0·8	0	−0·4	−0·7	+0·3	0	−1·6	−1·8	+0·2	−0·2	−0·2
	Allahabad	+2·5	+2·0	−0·6	+2·1	−0·8	−2·7	−0·7	+1·0	−0·6	−0·4	−0·5	+1·3	+0·2
Upper Sub-Himalayas.	Dehra Dun	+1·6	+0·8	−0·8	+1·0	−0·3	−2·6	−1·0	+0·9	−1·8	−0·3	−1·0	−0·1	−0·3
	Roorkee	+0·8	−0·7	−0·9	+0·6	−0·4	−2·0	−1·4	+0·7	−2·6	−0·5	−0·6	−0·6	−0·6
	Meerut	+1·6	−0·2	−0·9	+0·6	−0·3	+0·2	−0·6	+0·4	−2·9	−0·2	−0·6	+0·2	−0·2
	Lahore	+1·0	−0·2	−0·4	−0·2	−0·6	−2·1	−1·2	−0·3	−0·6	−0·4	−1·0	−1·1	−0·6
	Ludhiana	+0·3	−0·6	−1·6	−0·4	−0·4	−2·1	−1·4	−0·7	−1·5	−0·6	−1·1	−1·3	−1·0
North-West Frontier, Indus Valley and North-West Rajputana.	Peshawar	−0·4	−1·8	−0·8	−1·1	+0·6	+0·1	−0·9	−0·5	0	−0·1	−0·7	−0·7	−0·5
	Jacobabad	+1·9	−1·4	−0·2	+0·6	+0·8	−0·7	−0·6	−0·1	−0·4	0	−0·9	−0·4	−0·1
	Kurrachee	+0·5	−1·7	−1·3	−0·1	−0·5	−1·5	−2·5	−1·3	−1·1	−0·2	−0·8	−0·1	−0·9
East Rajputana, Central India and Gujarat.	Jaipur	+1·4	+0·6	−0·6	+1·3	+0·4	−1·4	−0·9	+0·8	−1·9	−0·	−0·8	+0·8	−0·1
	Deesa	+0·6	−1·5	−1·7	+0·8	−0·8	−2·8	−0·9	+0·1	−1·7	−0·6	−1·0	+0·8	−0·7

TABLE XXII.—*Comparison of the mean cloud proportion in each month of 1901 with the averages of past years*—concld.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
DECCAN	Belgaum	+1·2	+2·0	+1·8	+1·7	+0·3	+0·6	+0·3	+0·4	−0·9	−1·2	+1·4	+1·5	+0·8
	Sholapur	+0·6	+2·3	+1·5	+1·9	+0·2	+0·5	+0·6	+0·5	−1·8	−1·6	+0·8	+0·9	+0·5
	Poona	+0·6	+0·7	+0·4	+0·8	0	−0·9	−0·2	+0·8	−1·3	−1·3	+0·1	+0·9	+0·1
	Akola	+2·2	+1·5	+1·0	+1·6	+0·5	−0·9	+0·5	+1·4	−1·5	−1·0	−0·5	+2·2	+0·6
	Buldana	+0·5	+0·4	+0·2	+1·5	−0·4	−0·7	+1·5	+2·0	−1·1	−1·5	−1·0	+0·3	+0·1
	Khandwa	+1·3	+0·8	+0·1	+1·7	+1·0	−1·1	−0·1	+1·2	−0·9	−0·3	−0·3	+1·2	+0·4
	Nagpur	+2·5	+3·2	+1·0	+2·2	+0·8	−0·9	−0·1	+0·3	−2·6	−0·4	+0·1	+1·2	+0·6
	Hyderabad (Deccan)	+1·3	+2·9	+1·0	+1·0	+0·3	0	+0·9	+0·8	−0·6	−0·7	+1·8	+0·8	+0·8
WEST COAST	Bombay	+0·8	+1·0	0	+0·3	−1·3	−0·4	−0·1	+0·2	−2·0	−1·4	−0·2	+1·2	−0·2
	Karwar	−0·3	+1·4	0	−0·3	+0·1	+0·4	+0·1	−0·1	−1·6	−1·3	+1·2	+0·6	0
SOUTH INDIA	Salem	−0·1	+2·2	+0·4	+1·4	+0·9	+0·4	+1·2	+0·5	+1·2	0	+1·7	+1·2	+0·9
	Chitaldroog	+0·3	+2·3	−0·3	+1·4	+0·5	+0·2	+0·3	+0·2	−0·4	−0·5	+2·1	+0·5	+0·6
	Bangalore	−0·7	+1·7	−0·9	+1·3	−0·5	+1·4	+2·3	+1·8	+1·1	−0·5	+1·4	−0·6	+0·7
	Hassan	+0·2	+2·4	+0·2	+1·0	+1·2	+0·4	+0·4	+0·3	0	−0·6	+0·6	+0·5	+0·6
	Mysore	+2·0	+3·9	+2·4	+3·0	+2·6	+1·6	+0·7	+0·1	+0·4	+0·7	+1·6	+1·9	+1·7
	Madras	−0·1	+0·9	0	+1·0	−0·5	−0·5	+0·5	+0·3	−0·5	−0·2	+1·2	−0·3	+0·2
	Bellary	+2·6	+4·6	+2·1	+3·0	+1·1	+1·0	+1·0	+1·1	+0·9	+1·1	+3·5	+1·9	+2·0
HILL STATION, BALUCHISTAN.	Quetta	+1·4	−2·3	−1·0	−0·2	+1·2	−0·8	+0·7	−0·1	+0·1	−0·3	−0·9	−0·9	−0·3
HILL STATIONS, NORTHERN INDIA.	Leh	+0·4	−0·8	−1·4	0	−1·0	−0·2	−0·8	−1·0	−0·2	−1·8	−2·3	−1·1	−0·9
	Srinagar	+0·6	+0·4	−1·0	+0·9	+0·4	+1·0	−0·1	+0·1	−0·6	−0·9	−2·2	−1·8	−0·3
	Kailang	+0·9	+0·6	−0·7	+1·2	−0·8	+0·5	+0·1	+0·6	+0·4	−1·4	−2·3	−1·1	−0·2
	Simla (Ridge)	+2·0	+0·9	−0·6	+0·4	−1·0	−3·6	−1·5	+0·7	−1·0	−0·9	−1·5	−0·5	−0·6
	Chakrata	+0·8	+0·7	−0·5	+0·5	−0·3	−2·6	−1·0	+0·5	−1·8	−0·6	−1·1	−0·1	−0·5
	Ranikhet	+1·3	+0·1	−1·2	+1·4	−0·8	−3·9	−0·5	+0·7	−1·0	+0·3	−0·7	+0·2	−0·3
	Katmandu	+1·4	+0·4	+0·1	−2·2	+0·7	+0·6	+1·0	+0·6	+0·1	−0·9	−0·4	−0·5	+0·1
	Darjeeling	+1·2	−1·0	+0·2	−1·1	−1·1	−1·0	−1·3	−0·7	−1·2	−0·5	+1·0	−0·1	−0·5
HILL STATIONS, CENTRAL INDIA.	Mount Abu	+1·6	−1·1	−1·7	+1·6	0	−2·6	−1·2	+0·6	−0·9	−0·1	−0·9	+1·7	−0·3
	Pachmarhi	+2·2	+2·1	+0·4	+3·3	+0·8	−1·9	−0·3	+0·8	−1·9	−0·7	−0·3	+1·0	+0·5
	Chikalda	+0·6	+1·0	−0·7	+1·0	−0·2	−1·7	−1·3	+0·7	−2·3	−1·5	−1·6	−0·2	−0·5
HILL STATION, SOUTH INDIA.	Wellington	+0·9	+2·5	+0·2	+0·2	+0·6	+0·6	+1·1	+1·1	+1·4	−0·1	+1·5	−0·9	+0·8
EXTRA INDIA	Aden	+1·2	+0·6	0	+1·0	+0·4	+0·4	+0·7	+0·6	−0·6	−0·8	−1·4	−0·1	+0·2
	Perim	−0·4	+0·4	−0·2	+0·4	−0·7	−1·2	−1·4	−1·4	−2·8	−1·0	−1·7	−0·4	−0·9
	Zanzibar	+1·1	+3·2	+1·3	+1·8	+2·0	+1·0	+1·9	+0·6	+0·8	+1·7	+1·4	+1·7	+1·5
	Port Victoria (Seychelles)	−0·8	−0·2	−0·9	+1·3	−0·1	−2·1	+0·3	−0·6	+1·2	−0·8	+0·1	−0.3	−0.2

TABLE XXIII.—*Geographical summary of the cloud data of Table II in the monthly weather reviews of 1901.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalaya	6	+1·0	+0·3	−0·9	+0·7	−0·6	−1·5	−0·6	+0·3	−0·7	−0·9	−1·7	−0·7	−0·4
Sikkim Himalaya and Nepal	2	+1·3	−0·3	+0·2	−1·7	−0·2	−0·2	−0·2	−0·1	−0·6	−0·7	+0·3	−0·3	−0·2
Punjab Plains	3	+0·3	−0·9	−0·9	−0·6	−0·1	−1·4	−1·2	−0·5	−0·7	−0·4	−0·9	−1·0	−0·7
Gangetic Plain	5	+1·5	+0·7	−0·8	+0·9	−0·4	−1·6	−0·7	+0·6	−1·9	−0·6	−0·5	+0·1	−0·2
Western Rajputana	4	+1·2	−1·4	−1·2	+0·7	−0·1	−1·9	−1·3	−0·2	−1·0	−0·2	−0·9	+0·5	−0·5
Eastern Rajputana and Central India	1	+1·4	+0·6	−0·6	+1·3	+0·4	−1·4	−0·9	+0·8	−1·9	−0·3	−0·8	+0·8	−0·1
Nerbudda Valley	1	+1·3	+0·8	+0·1	+1·7	+1·0	−1·1	−0·1	+1·2	−0·9	−0·3	−0·3	+1·2	+0·4
Chota Nagpur	1	+3·0	+3·7	−0·5	+2·2	+0·7	−0·6	+0·2	+0·8	−1·3	−0·1	+0·5	+1·0	+0·8
Lower Bengal	2	+1·5	+1·1	−1·3	+1·3	−1·1	−0·6	+0·2	+0·2	−0·5	−0·1	+1·3	+1·0	+0·3
Orissa	1	+1·4	+0·6	−0·2	+1·6	−1·1	−0·7	+0·5	+0·8	+0·1	+0·7	+1·3	−0·5	+0·4
Central Provinces (South) and Berar	5	+1·6	+1·6	+0·4	+1·9	+0·3	−1·2	+0·1	+1·0	1·9	−1·0	−0·7	+0·9	+0·3
Konkan	2	+0·3	+1·2	0	0	−0·6	0	0	+0·1	−1·8	−1·4	+0·5	+0·9	−0·1
Deccan, Hyderabad and Mysore	9	+0·9	+2·5	+0·9	+1·6	+0·6	+0·5	+0·7	+0·7	−0·3	−0·5	+1·5	+0·9	+0·8
East Coast and Carnatic	2	−0·1	+1·6	+0·2	+1·2	+0·2	−0·1	+0·9	+0·4	+0·4	0	+1·5	+0·5	+0·6
Arakan and Pegu	4	+0·3	+0·4	−0·4	−0·2	+0·1	+0·7	+0·3	+0·7	−0·3	+0·9	+0·7	0	+0·3
Bay Islands	2	−0·1	+0·4	−0·3	−0·4	+0·5	+0·3	+0·4	+0·2	−0·4	+1·6	+1·3	−0·1	+0·3
Extra-Tropical India	25—26	+1·2	+0·2	−0·8	+0·6	−0·3	−1·3	−0·6	+0·2	−1·0	−0·5	−0·6	0	−0·2
Tropical India	25	+0·7	+1·7	+0·3	+1·0	+0·3	+0·1	+0·5	+0·7	−0·6	−0·3	+0·9	+0·6	+0·5
Whole India	50—51	+1·0	+0·9	−0·2	+0·8	0	−0·6	−0·1	+0·4	−0·8	−0·4	+0·1	+0·3	+0·1

TABLE XXIV.—*Variations of the mean cloud amount from the normal in nine meteorological provinces of India in 1901.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands	+0·3	+0·5	0	−0·6	+0·4	+0·5	+0·3	+0·5	−0·4	+1·2	+0·8	−0·1	+0·3
Bengal and Orissa	+1·3	+0·7	−0·9	+1·5	−0·9	−0·3	+0·2	+0·5	−0·2	+0·3	+1·2	+0·5	+0·3
Gangetic Plain and Chota Nagpur	+2·2	+2·5	−0·6	+1·4	−0·2	−1·3	−0·1	+0·6	−1·2	−0·8	+0·1	+0·7	+0·3
Upper Sub-Himalayas	+1·1	−0·2	−0·9	+0·3	−0·4	−1·7	−1·1	+0·2	−1·9	−0·4	−0·9	−0·6	−0·5
North-West Frontier, Indus Valley and North-West Rajputana.	+0·7	−1·6	−0·8	−0·2	+0·3	−0·7	−1·3	−0·6	−0·5	−0·1	−0·8	−0·4	−0·5
East Rajputana, Central India and Gujarat	+1·0	−0·5	−1·2	+1·1	−0·2	−2·1	−0·9	+0·5	−1·8	−0·5	−0·9	+0·8	−0·4
Deccan	+1·3	+1·7	+0·9	+1·4	+0·3	−0·4	+0·4	+0·9	−1·3	−1·0	+0·1	+1·1	+0·5
West Coast	+0·3	+1·2	0	0	−0·6	0	0	+0·1	−1·8	−1·4	+0·5	+0·9	−0·1
South India	+0·6	+2·6	+0·6	+1·7	+0·8	+0·6	+0·9	+0·6	+0·4	0	+1·7	+0·7	+0·9

I.—The cold weather period.—The variations from normal of the cloud proportion closely followed the abnormalities of the vapour pressure and humidity. Thus in the cold weather period the cloud proportion was, like the humidity, excessive generally in Upper India and over the greater part of the Peninsula. In January the excess was greatest in Chota Nagpur, but exceeded 2 over the greater part of the East Satpuras and neighbouring parts of the Gangetic Plain and over the centre of the Peninsula. The following gives data:—

Station.	Variation of cloud amount from normal in		
	January.	February.	Period, January and February.
Hazaribagh	+3·0	+3·7	+3·3
Allahabad	+2·5	+2·0	+2·2
Pachmarhi	+2·2	+2·1	+2·1
Nagpur	+2·5	+3·2	+2·8
Akola	+2·2	+1·5	+1·8
Hyderabad (Deccan)	+1·3	+2·9	+2·1
Bellary	+2·6	+4·6	+3·6
Chitaldroog	+0·3	+2·3	+1·3
Mysore	+2·0	+3·9	+2·9

Cloud was in slight excess in the Punjab, South-West Rajputana and Sind in January and in moderate defect in February. The following gives data:—

Station.	Variation of cloud amount from normal in		
	January.	February.	Period, January and February.
Ludhiana	+0·3	—0·6	—0·1
Lahore	+1·0	—0·2	+0·4
Peshawar	—0·4	—1·8	—1·1
Jacobabad	+1·9	—1·4	+0·2
Kurrachee	+0·5	—1·7	—0·6
Deesa	+0·6	—1·5	—0·4
Mount Abu	+1·6	—1·1	+0·2

The cloud amount was about normal over Burma and the Bay Islands during the period. The following gives data:—

Station.	Variation of cloud amount from normal in		
	January.	February.	Period, January and February.
Port Blair	+0·4	+1·2	+0·8
Diamond Island	—1·0	—0·2	—0·6
Rangoon	+1·3	+1·0	+1·1
Akyab	+0·3	+0·8	+0·5
Chittagong	+0·6	—0·2	+0·2

Skies were slightly cloudier than usual during the period at the hill stations of India and Kashmir. The following gives data:—

Station.	Variation of cloud amount from normal in		
	January.	February.	Period, January and February.
Leh	+ 0·4	—0·8	—0·2
Srinagar	+0·6	+0·4	+0·5
Kailang	+0·9	+0·6	+0·7
Simla	+2·0	+0·9	+1·4
Chakrata	+0·8	+0·7	+0·7
Ranikhet	+1·3	+0·1	+0·7
Katmandu	+1·4	+0·4	+0·9
Darjeeling	+1·2	—1·0	+0·1
Mount Abu	+1·6	—1·1	+0·2
Pachmarhi	+2·2	+2·1	+2·1
Chikalda	+0·6	+1·0	+0·8
Wellington	+0·9	+2·5	+1·7

II.—The hot weather period.—The variations from normal of the cloud amount during this period were somewhat irregular. During the period skies were more heavily clouded than usual over the Peninsula. The following gives data:—

Station.	Variation of cloud amount from normal in			
	March.	April.	May.	Period, March to May.
Nagpur	+ 1·0	+2·2	+0·8	+1·3
Akola	+1·0	+1·6	+ 0·5	+1·0
Hyderabad (Deccan)	+1·0	+1·0	+0·3	+0·8
Sholapur	+1·5	+1·0	+0·2	+0·9
Belgaum	+1·8	+1·7	+0·3	+1·3
Bellary	+2·1	+3·0	+1·1	+2·1
Mysore	+2·4	+3·0	+2·6	+2·7
Bangalore	—0·9	+1·3	—0·5	0

Skies were, except in April, clearer than usual throughout the period over Burma and Bengal. The following gives data :—

Station.	Variation of cloud amount from normal in.			
	March.	April.	May.	Period, March to May.
Diamond Island	—2·0	—1·8	+1·0	—0·9
Rangoon	+0·5	—1·3	0	—0·3
Chittagong	—1·1	+1·6	—0·5	0
Saugor Island	—1·6	+0·9	—1·2	—0·6
Calcutta	—0·8	+1·7	—0·9	0
Darbhanga	—0·8	0	—0·4	—0·4

Skies were on the mean of the period slightly clearer than usual over Lower Sind, the Punjab, and the Upper Sub-Himalayas. The following gives data :—

Station.	Variation of cloud amount from normal in			
	March.	April.	May.	Period, March to May.
Deesa	—1·7	+0·8	—0·8	—0·6
Mount Abu	—1·7	+1·6	0	0
Kurrachee	—1·3	—0·1	—0·5	—0·6
Peshawar	—0·8	—1·1	+0·6	—0·4
Lahore	—0·4	—0·2	—0·6	—0·4
Ludhiana	—1·6	—0·4	—0·4	—0·8
Roorkee	—0·9	+0·6	—0·4	—0·2
Meerut	—0·9	+0·6	—0·3	—0·2

Cloud was in defect at the Upper India hill stations and in Thibet in March and May and in excess in April, as shown by the following data :—

Station.	Variation of cloud amount from normal in			
	March.	April.	May.	Period, March to May.
Leh	—1·4	0	—1·0	—0·8
Srinagar	—1·0	+0·9	+0·4	+0·1
Simla	—0·6	+0·4	—1·0	—0·4
Chakrata	—0·5	+0·5	—0·3	—0·1
Ranikhet	—1·2	+1·4	—0·8	—0·2

III.—The south-west monsoon period.—During June and July, cloud was in defect over North-Western India generally, the defect being greatest in Lower Sind and along the hills and the submontane areas of the United Provinces and Punjab. The following gives data :—

Station.	Variation of cloud amount from normal in		
	June.	July.	Period, June and July.
Kurrachee	—1·5	—2·5	—2·0
Deesa	—2·8	—0·9	—1·8
Mount Abu	—2·6	—1·2	—1·9
Jaipur	—1·4	—0·9	—1·1
Lahore	—2·1	—1·2	—1·6
Ludhiana	—2·1	—1·4	—1·7
Dehra Dun	—2·6	—1·0	—1·8
Roorkee	—2·0	—1·4	—1·7
Allahabad	—2·7	—0·7	—1·7
Simla	—3·6	—1·5	—2·5
Chakrata	—2·6	—1·0	—1·8
Ranikhet	—3·9	—0·5	—2·2

During these months skies were slightly more heavily clouded than usual in the centre and south of the Peninsula and in Burma. The following gives data :—

Station.	Variation of cloud amount from normal in		
	June.	July.	Period, June and July.
Mysore	+1·6	+0·7	+1·1
Bangalore	+1·4	+2·3	+1·8
Bellary	+1·0	+1·0	+1·0
Sholapur	+0·5	+0·6	+0·5
Belgaum	+0·6	+0·3	+0·4
Hyderabad (Deccan)	0	+0·9	+0·4
Diamond Island	+0·3	+0·8	+0·5
Rangoon	+0·7	+0·6	+0·6
Akyab	+0·8	—0·4	+0·2

In other areas the variations from normal were very slight.

In August skies were generally more heavily clouded than usual, the excess being greatest over the Deccan and the head of the Peninsula. But in September cloud was in general defect, except in the south of the Peninsula, where it was in slight excess.

The following gives data for the areas of excessive cloud during these months :—

Station.	Variation of cloud amount from normal in		
	August.	September.	Period, August and September.
Khandwa	+1·2	—0·9	+0·1
Akola	+1·4	—1·5	0
Sholapur	+0·5	—1·8	—0·6
Hyderabad (Deccan)	+0·8	—0·6	+0·1
Bellary	+1·1	+0·9	+1·0
Bangalore	+1·8	+1·1	+1·4
Salem	+0·5	+1·2	+0·8
Mysore	+0·1	+0·4	+0·3

Cloud was deficient during both months in Sind and the Punjab. The following gives data :—

Station.	Variation of cloud amount from normal in		
	August.	September.	Period, August and September.
Kurrachee	—1·3	—1·1	—1·2
Jacobabad	—0·1	—0·4	—0·2
Lahore	—0·3	—0·6	—0·4
Ludhiana	—0·7	—1·5	—1·1
Peshawar	—0·5	0	—0·2

Cloud was in more or less considerable defect in September in the United Provinces and South-West Rajputana, where, however, it was in slight excess in August. The following gives data :—

Station.	Variation of cloud amount from normal in		
	August.	September.	Period, August and September.
Deesa	+0·1	—1·7	—0·8
Roorkee	+0·7	—2·6	—0·9
Meerut	+0·4	—2·9	—1·2
Allahabad	+1·0	—0·6	+0·2

The variations from normal elsewhere were slight.

IV.—The retreating south-west monsoon period.—Fine weather obtained in the Punjab and Sind during the greater part of the period and the cloud proportion was in general defect in that area. The following gives data in illustration.—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Peshawar	—0·1	—0·7	—0·7	—0·5
Lahore	—0·4	—1·0	—1·1	—0·8
Ludhiana	—0·6	—1·1	—1·3	—1·0
Jacobabad	0	—0·9	—0·4	—0·4
Kurrachee	—0·2	—0·8	—0·1	—0·4

Over Gujarat, Rajputana, the United Provinces and the Central Provinces the cloud proportion was in defect in October and November and in moderate excess in December ; the following gives data :—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Deesa	—0·6	—1·0	+0·8	—0·3
Mount Abu	—0·1	—0·9	+1·7	+0·2
Jaipur	—0·3	—0·8	+0·8	—0·1
Meerut	—0·2	—0·6	+0·2	—0·2
Allahabad	—0·4	—0·5	+1·3	+0·1
Nagpur	—0·4	+0·1	+1·2	+0·3
Khandwa	—0·3	—0·3	+1·2	+0·2
Akola	—1·0	—0·5	+2·2	+0·2
Buldana	—1·5	—1·0	+0·3	—0·7

In the Deccan, the West Coast, South India, East Coast, North-East India and Burma cloud was generally normal or in slight excess on the mean of the period, except that in October cloud was in moderate defect in North Bengal, the Deccan and the West Coast.

The following data illustrate these features :—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Bombay	—1·4	—0·2	+1·2	—0·1
Poona	—1·3	0·1	+0·9	—0·1
Karwar	—1·3	+1·2	+0·6	+0·2
Belgaum	—1·2	+1·4	+1·5	+0·6
Sholapur	—1·6	+0·8	+0·9	0
Bellary	+1·1	+3·5	+1·9	+2·2
Mysore	+0·7	+1·6	+1·9	+1·4
Madras	—0·2	+1·2	—0·3	+0·2
False point	+0·7	+1·3	—0·5	+0·5
Calcutta	—0·4	+1·2	+0·7	+0·5
Darbhanga	—1·8	+0·2	—0·2	—0·6
Chittagong	+0·5	+0·9	+0·4	+0·6
Diamond Island	+1·2	—0·1	—0·8	+0·1
Rangoon	+2·4	+1·7	+1·4	+1·8
Port Blair	+1·3	+1·7	—0·8	+0·7

Cloud was in general defect at the Himalayan stations and in Kashmir throughout the period, as is shewn by the following data:—

Station.	Variation of cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Leh	—1·8	—2·3	—1·1	—1·7
Srinagar	—0·9	—2·2	—1·8	—1·6
Kailang	—1·4	—2·3	—1·1	—1·6
Simla	—0·9	—1·5	—0·5	—1·0
Chakrata	—0·6	—1·1	—0·1	—0·6
Ranikhet	+0·3	—0·7	+0·2	—0·1
Katmandu	—0·9	—0·4	—0·5	—0·6
Darjeeling	—0·5	+1·0	—0·1	+0·1

The year.—The mean cloud amount was on the average of the year in very slight excess (+0·1) over the whole Indian area. This excess in the average for India was entirely due to an excess (+0·5) of cloud in Tropical India, the cloud proportion in Extra-Tropical India being in slight defect (—0·2).

The following gives data for these two areas and for the whole of India for the four periods into which the year is divided and for the year:—

Station.	Variation of mean cloud amount from normal in				
	Period I.	Period II.	Period III.	Period IV.	Whole year.
Extra-Tropical India	+0·7	—0·2	—0·7	—0·4	—0·2
Tropical India	+1·2	+0·5	+0·2	+0·4	+0·5
Whole India	+1·0	+0·2	—0·3	0	+0·1

The following table gives the variation of the mean amount of cloud in the Indian area, year by year, for the period, 1875—1901:—

Year.	Amount of variation.	Year.	Amount of variation.
1875	0	1888	—0·1
1876	—0·2	1889	+0·1
1877	+0·3	1890	+0·2
1878	+0·1	1891	+0·1
1879	—0·1	1892	+0·1
1880	—0·1	1893	+0·5
1881	—0·1	1894	+0·5
1882	0	1895	+0·1
1883	+0·1	1896	—0·2
1884	—0·1	1897	0
1885	+0·2	1898	—0·2
1886	+0·2	1899	—0·3
1887	—0·1	1900	+0·2
		1901	+0·1

Rainfall.

The rainfall data of India are now issued in a separate volume. The eleventh volume, that of 1901, contains the rainfall data of 2,360 stations, which are classified under their respective administrative divisions according to the following scheme:—

Province.	Number of stations.
Burma	147
Assam	116
Bengal, Bihar, Chota Nagpur and Orissa	365
United Provinces of Agra and Oudh	277
Punjab	188
North-West Frontier Province	25
Bombay	280
Madras	389

Province.	Number of stations.
Coorg	10
Central Provinces	68
Berar	44
Mysore	78
Baluchistan	54
Kashmir	39
Rajputana	139
Central India	65
Hyderabad (Deccan)	23
Travancore	39
Cochin	3
Pudukota	11

The volume contains the whole of the available information for the year 1901 of this important element of meteorological observation.

The information includes monthly statements of—

(*a*) the actual rainfall, day by day, of all the rainfall stations;

(*b*) the total rainfall of the month;

(*c*) the number of rainy days during the month;

(*d*) the average or normal rainfall of the month of all stations for which rainfall data of at least five years are available;

(*e*) the average or normal number of rainy days of the month for all stations for which rainfall data of five years or upwards are available;

(*f*) the accumulated rainfall (up to the date of each statement) throughout each of the seasons into which the year is divided.

Symons's rain-gauges are now used at all rain-gauge stations, with the exception of those in Mysore. The hour of measuring rainfall is 8 A.M. throughout India, and the amounts registered give the rainfall of the previous 24 hours, and hence generally of the previous civil day.

In table XXV of the Annual Summary for 1896 are given the normal means of rainfall for 535 stations determined from the whole of the available data down to December 1896. The stations for which the means are given were selected by Mr. Blanford, and normal means were given in the rainfall sections of the Annual Reports on the Meteorology of India. The last series of means was given in the Annual Report on the Meteorology of India for 1890. The normal means in Table XXV of the Annual Summary for 1896 are based on six years' additional data. This period, however, includes the three years, 1892—94, of abnormally heavy rainfall, and hence the means given in this table are in almost all cases higher than those given in Table XXXI of the Annual Report on the Meteorology of India for 1890. The following gives six instances of the considerable apparent increase in the mean rainfall:—

Province.	Station.	Average annual rainfall based on data up to 1890.	Average annual rainfall based on data up to 1896.	Increase in average result.
		Inches.	Inches.	Inches.
Bombay	Lonavla	164·24	172·75	+8·51
	Jetalsar	23·60	30·39	+6·79
Bengal and Orissa	Keonjhar	31·29	37·98	+6·69
	Narsingpur	39·02	44·72	+5·70
	Bispara	49·69	55·07	+5·38
Central Provinces	Sarangarh	50·50	55·84	+5·34

Table XXV gives the variations of the monthly and annual rainfall in 1901 of 548 stations in India, Baluchistan and Burma.

The following four tables (Tables XXVI to XXIX) give summaries of the rainfall data of the year. In the first two tables (Tables XXVI and XXVII) the summaries are drawn up in the form that was used for many years in the Annual Reports issued by the Department and are based on the rainfall returns of 432 selected stations. Is the two succeeding tables (Tables XXVIII and XXIX) the actual average rainfall data (derived from the returns of 2,360 rain-guage stations in India) are given for the 57 meteorological districts into which the Empire is divided for the comparison of crops and rainfall for the four periods into which the year may be arranged. The four periods are as follows:—

1st.—From January 1st to February 28th, which forms the period of the cold weather rains of Upper India.

2nd.—From March 1st to May 31st, which includes the hot season, when rain occurs mainly in the coast districts, and in Assam during thunderstorms.

3rd.—From June 1st to October 31st, which forms the period of the south-west monsoon rains proper.

4th.—From November 1st to December 31st, which includes the period of the so-called north-east monsoon rains of Southern India, more especially of the Coromandel Coast districts.

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years.*

Province.	Station	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	Total.
		Inch.	Inches.	Inches.	Inch.	Inches.	Inches.	Inches.	Inch.	Inch.	Inch.	Inch.	Inches.	Inches.
Baluchistan	Kalat	+0·82	−2·52	−0·55	−0·27	+0·99	−0·21	+1·45	−0·52	−0·05	−0·07	−0·35	−0·60	−1·88
	Pishin	−0·44	−2·12	−0·74	−0·73	+0·49	−0·06	−0·21	−0·21	−0·01	−0·06	−0·75	−1·37	−6·21
	Chaman	+0·40	−2·39	−1·13	−0·44	0	−0·22	−0·29	0	0	−0·09	−0·88	−0·81	−5·85
	Quetta	+0·05	−2·07	−0·62	−0·87	+0·89	−0·19	−0·24	−0·52	−0·13	−0·09	−0·31	−0·83	−5·03
	Mach	−0·86	−2·36	+0·51	−0·01	+1·89	−1·25	−0·62	+0·21	−0·05	−0·62	−0·21	−0·87	−4·24
	Beleli	−0·46	−2·79	+0·21	−0·61	+0·16	−0·22	−0·11	−0·56	−0·04	−0·10	−0·93	−1·60	−7·05
	Kuchelak	−0·48	−2·50	−0·16	−0·40	+0·80	−0·13	−0·09	−0·25	−0·19	−0·13	−0·89	−1·80	−6·22
	Fort Sandeman	−0·41	−0·65	+0·28	−0·25	+3·20	−0·84	−2·47	−0·03	+0·11	−0·10	−0·56	−0·20	−2·92

TABLE XXV.—*Comparison of the monthly and total rainfall in inches in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BALUCHISTAN —*concld.*	Bostan	+0·11	−3·13	−0·11	−0·46	+0·80	−0·29	−0·21	−0·26	−0·04	−0·12	−0·76	−2·11	−6·58
	Yarookarez	+0·11	−2·37	−0·76	−0·54	+0·71	−0·08	+0·10	−0·23	0	−0·07	−0·46	−1·80	−5·39
	Syad Hamed	−0·44	−2·94	−0·56	−0·28	+0·58	−0·01	0	−0·13	0	−0·10	−1·06	−1·55	−6·49
	Gulistan	−0·28	−2·35	−0·85	−0·34	+0·54	−0·07	−0·05	0	−0·06	−0·10	−0·91	−1·56	−6·03
	Killa Abdulla	+1·44	−2·51	−0·46	−0·68	+0·87	−0·05	−0·13	−0·04	0·03	−0·15	−1·29	−1·61	−4·64
	Khanai	−1·02	−2·97	+0·13	−0·59	+0·88	−0·28	−0·14	−0·30	0	−0·11	−0·71	−1·65	−6·76
	Fuller's Camp	−1·87	−3·32	−0·69	−0·72	+1·00	−0·16	+0·10	−0·22	−0·09	−0·13	−0·96	−1·51	−8·57
	Kachh	+5·33	−2·77	−0·83	−0·31	−0·11	−0·36	+0·31	−0·23	−0·14	−0·10	−0·97	−1·35	−1·53
	Mudgorge	−0·95	−1·84	−0·91	−0·24	+1·53	−0·32	+0·89	−0·04	−0·06	−0·13	−1·23	−0·92	−4·22
	Mangi	+0·72	−1·74	+0·35	−0·59	+1·37	−0·79	+1·01	+0·30	−0·16	−0·13	−0·99	−1·36	−2·01
	Dirgi	−0·24	−1·39	+0·21	−0·47	+2·07	−0·68	+1·35	−0·39	−0·15	−0·09	−0·78	−1·46	−2·02
	Khost	−1·30	−2·18	+0·16	+0·04	+2·83	−0·67	+0·43	−0·68	−0·24	−0·29	−1·34	−1·46	−4·70
	Shahrig	−1·23	−1·59	+0·47	+0·02	+2·57	−1·25	+0·21	−1·79	−0·44	−0·17	−0·98	−1·05	−5·23
	Nasak	−0·71	−2·40	−1·12	−0·25	+2·12	−1·69	+1·01	−2·77	−0·59	−0·13	−1·00	−1·13	−8·66
	Harnai	−0·69	−2·35	−0·31	+0·10	+1·94	−1·67	−0·07	−2·04	−0·08	−0·12	−0·80	−1·22	−7·31
	Sunari	−0·16	−1·67	+0·30	−0·12	+1·77	−1·39	−1·94	−1·88	−0·56	−0·12	−0·70	−0·89	−7·36
	Spintangi	+0·44	−1·54	+0·63	0	+1·72	−1·11	−0·43	−2·34	−0·09	0	−0·57	−0·80	−4·09
	Mushkaf	?	?	−0·46	−0·06	+2·00	−0·33	+1·36	+0·25	−0·02	0	−0·17	−0·06	?
	Baber Kach	+0·04	−0·89	+0·19	−0·09	+1·84	−0·49	+0·69	−0·16	−0·09	−0·04	−0·41	−0·52	+0·07
	Loralai (Hospital)	−0·21	+0·68	+0·05	+0·16	+3·70	−0·70	+0·66	−0·34	−0·14	−0·19	−0·40	−0·38	+2·89
	Nari	−0·01	−0·80	−0·12	−0·08	+2·30	−0·35	+0·14	+0·81	−0·22	−0·01	−0·32	−0·49	+0·85
	Sibi	−0·24	−0·45	−0·05	−0·08	+2·89	−0·30	+0·46	−0·50	−0·12	0	−0·26	−0·56	+0·79
	Kolepur	+0·36	−2·37	+0·10	−0·49	+1·19	−0·16	−0·89	−0·76	−0·21	−0·06	−0·34	−1·09	−4·72
	Mittri	−0·39	−0·28	−0·09	−0·15	+2·00	−0·28	+1·40	−0·42	0	−0·01	−0·23	−0·42	+1·11
	Lindsay	+0·08	−0·53	−0·26	−0·11	+0·90	−0·23	+0·17	−0·74	+0·01	0	−0·19	−0·31	−1·21
	Bellput	+0·25	−0·22	+0·38	−0·05	+3·07	−0·15	−0·07	−0·81	+1·57	0	−0·28	−0·16	+3·53
	Nuttal	+0·11	−0·41	+0·81	−0·09	+1·63	−0·11	−1·06	+0·02	−0·20	0	−0·56	−0·36	−0·22
	Temple Dera	−0·37	−0·46	+0·64	−0·07	+1·39	−0·33	−0·56	−1·16	−0·03	0	−0·33	−0·16	−1·44
	Jhatput	−0·17	−0·43	+0·01	−0·03	+0·54	−0·16	+0·50	−0·77	−0·17	0	−0·29	−0·14	−1·11
	Sangal	+1·21	−2·44	−1·45	−0·52	0	−0·02	−0·38	−0·09	0	−0·19	−0·74	−0·74	−5·36
	Shalabagh	−0·21	−3·34	−0·40	+0·29	+0·96	−0·04	−0·71	0	0	−0·16	−0·69	−1·80	−6·10
	Panir	−0·55	−0·66	−0·52	0	+2·55	−0·31	+0·05	−0·34	−0·04	−0·01	−0·14	−0·36	−0·33
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.	Abbottabad	+4·01	−0·54	+1·47	+0·03	+3·61	−1·58	−5·11	+1·00	+0·76	+0·30	−1·01	−1·94	+1·00
	Cherat	+3·07	+0·27	−0·68	−0·86	+10·16	+1·45	−0·73	−2·89	−1·04	+1·14	−0·24	−1·00	+8·65
	Murree (Obsy.)	+2·11	−2·64	+0·58	+1·00	+5·09	−2·00	−5·93	−0·29	+1·37	−1·21	−1·49	−1·36	−4·77

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
	Poo	—0·60	—1·40	—3·76	+0·07	+0·96	- 0·27	—0·75	+0·94	—0·45	—0·75	—0·78	—0·44	—7·23
	Dharamsala	+5·38	+2·36	—0·19	—1·67	+2·63	—7·57	—15·49	+3·96	—8·80	—0·89	—0·38	—2·03	—22·69
	Kailang	—0·36	+1·43	—1·78	—1·25	+1·90	—0·71	+0·06	—0·80	—1·32	—0·43	—0·61	—0·61	—4·48
	Kilba	+0·06	+1·24	—4·06	—2·45	+0·99	—1·86	—2·21	—1·30	—3·70	—1·23	—1·98	—0·49	—16·99
	Simla (Obsy.)	+2·91	+5·95	+2·09	—2·31	—1·75	—5·62	—4·80	+11·18	—3·54	—1·22	—0·45	—0·12	+2·32
	Peshawar (Obsy.)	+0·12	+0·30	+1·25	—0·94	+4·56	+0·12	—1·56	—2·11	+0·54	+0·09	—0·64	—0·50	+1·23
	Kohat	+1·35	—0·38	+0·37	—1·24	+6·91	+0·25	—3·08	—0·84	+2·18	—0·02	—0·70	—0·47	+4·33
	Bannu	+0·16	0	—0·58	—0·94	+3·93	—0·62	—0·01	+1·79	+0·38	—0·15	—0·30	—0·29	+3·37
	Dera Ismail Khan	+0·02	—0·57	—0·09	—0·61	+3·48	+0·38	—1·15	+3·06	—0·47	—0·11	—0·16	—0·31	+3·47
	Dera Ghazi Khan	—0·27	—0·30	+0·38	—0·17	+0·62	—0·51	—1·71	+0·04	—0·35	—0·05	—0·13	—0·25	—2·70
	Muzaffargarh	—0·28	+0·16	—0·28	—0·14	+0·18	—0·26	—1·00	—0·65	—0·41	—0·08	—0·09	—0·27	—3·12
	Mooltan (Obsy.)	—0·17	—0·09	—0·41	—0·10	+0·39	—0·33	—1·76	—1·21	—0·65	—0·08	—0·07	—0·27	—4·75
	Jhang	—0·11	0	—0·16	—0·39	+0·14	—0·57	+1·15	—0·23	—0·62	—0·15	—0·06	—0·32	—1·32
	Montgomery	—0·26	—0·62	+0·26	+0·09	+1·26	—1·20	—0·98	—1·94	—0·93	—0·14	—0·06	—0·26	—4·78
	Shahpur	+0·63	—0·66	—0·29	+0·35	+3·49	—0·22	—1·17	—1·45	0	—0·16	—0·25	—0·36	—0·09
PUNJAB AND NORTH-WEST FRONTIER PROVINCE—*concld.*	Rawalpindi	+1·96	+0·19	+0·28	—0·43	+2·73	—1·02	—6·20	—4·06	+2·34	—0·48	—0·71	—1·08	—6·48
	Jhelum	+2·65	—0·11	—0·79	+0·01	+3·68	—1·53	+4·17	—2·63	+2·67	—0·47	—0·27	—0·80	+6·58
	Gujarat	+1·34	—0·81	—1·09	—0·06	+3·01	—2·04	+0·48	—4·19	—0·46	—0·47	—0·24	—0·67	—5·20
	Sialkot (Obsy.)	+0·92	—0·86	—0·18	—0·90	+2·59	—2·66	+1·63	—5·53	—1·49	—0·53	—0·29	—0·79	—8·09
	Gujranwala	+0·50	—1·05	—0·83	—0·40	+0·92	+0·50	—4·29	—1·40	—0·70	—0·46	—0·22	—0·62	—8·05
	Gurdaspur	+1·81	+0·55	+1·08	—0·54	+1·26	—6·94	+3·46	—4·50	+0·88	—0·54	—0·15	—1·08	—1·71
	Lahore	+0·64	—0·91	+0·37	—0·36	+0·51	—1·32	+3·11	—2·12	—2·01	—0·46	—0·13	—0·46	—3·14
	Amritsar	+0·31	+0·11	—0·38	—0·47	+0·94	—2·10	+0·30	—1·46	—1·17	—0·45	—0·20	—0·63	—5·20
	Ferozepore	—0·43	+0·10	—0·27	—0·50	+0·06	—1·24	—1·64	—3·85	—2·28	—0·55	—0·06	—0·48	—11·14
	Jullandar	+2·01	+0·49	—0·34	—0·37	+1·29	—1·24	+0·41	+4·23	—3·17	—0·41	—0·10	—0·40	+1·40
	Hosiharpur	+3·40	+1·74	+0·13	—0·43	+0·31	—3·32	—1·94	—0·73	—2·84	—0·16	—0·15	—0·80	—4·79
	Ludhiana	+1·02	+2·79	—0·80	—0·47	+0·47	—2·15	+1·12	+3·00	—3·70	—0·96	—0·09	—0·54	—0·31
	Umballa	+1·88	+3·66	+1·14	—0·56	+0·33	—3·26	—3·34	—1·88	—2·63	—0·21	—0·26	—0·29	—5·42
	Sirsa	—0·37	+0·09	—0·13	—0·34	—0·52	—2·14	—1·30	—2·45	- 1·92	—0·25	—0·03	—0·14	—9·50
	Hissar	+0·29	—0·03	—0·41	—0·22	—0·49	—1·45	+0·33	—2·46	—1·81	—0·28	—0·08	—0·37	—6·98
	Rohtak	+0·22	+0·26	—0·16	—0·24	—0·70	—2·66	—3·99	—1·32	—2·03	—0·37	—0·04	+0·02	—11·01
	Delhi (Obsy.)	+0·26	—0·08	—0·14	—0·35	—0·15	—1·73	—1·47	+1·57	—4·22	—0·42	—0·10	—0·35	—7·18
	Gurgaon	+0·57	+0·24	—0·37	—0·14	—0·38	—0·71	—4·13	+0·65	—3·84	—0·37	—0·04	—0·18	—8·70
	Karnal	+0·44	—0·03	+0·16	—0·40	—0·95	—3·58	+4·61	—1·20	—4·23	—0·38	—0·13	—0·16	—5·85

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
SIND	Kurrachee	—0·14	—0·30	—0·13	—0·14	+0·20	—0·51	—2·73	—1·70	—0·65	—0·05	—0·18	—0·19	—6·52
	Sehwan	—0·12	—0·25	—0·19	—0·16	+0·02	—0·32	—1·09	—2·59	—0·55	—0·03	—0·13	—0·03	—5·44
	Tatta	—0·31	—0·22	+0·04	—0·31	+1·04	—1·01	—2·51	—1·70	—0·81	0	—0·22	—0·07	—6·08
	Hyderabad (Obsy.)	—0·06	—0·21	—0·12	—0·16	+0·78	—0·48	—1·98	—3·14	—0·57	0	—0·12	+0·03	—6·03
	Umarkot	—0·09	—0·08	—0·10	—0·09	+0·01	—0·88	—2·48	—2·21	—0·97	—0·16	—0·06	+0·05	—7·06
	Shikarpur	—0·25	—0·13	+0·15	—0·13	+0·26	—0·11	+0·66	—1·64	—0·19	0	—0·14	—0·15	—1·67
	Rohri	—0·26	—0·08	—0·28	—0·21	—0·12	—0·24	—0·07	—1·33	—0·26	—0·01	—0·12	—0·18	—3·16
	Jacobabad	—0·02	—0·03	+0·65	—0·18	+0·54	—0·11	—0·68	—1·23	—0·16	—0·01	—0·13	—0·11	—1·47
CUTCH	Bhuj	—0·03	—0·13	—0·03	—0·10	—0·02	—2·25	—4·19	—0·57	—1·65	—0·38	—0·09	+0·05	—9·39
	Rhahpur	+0·07	—0·10	—0·06	—0·06	—0·03	—1·70	—7·27	—0·39	—2·54	—0·54	—0·20	—0·01	—12·83
	Nagar	—0·03	—0·10	—0·05	—0·03	—0·43	—2·06	—3·20	—3·95	—1·98	—0·27	—0·05	+0·04	—12·11
RAJPUTANA	Jaisalmer	—0·30	—0·13	—0·06	—0·06	—0·26	—0·86	+0·45	—1·91	—0·45	0	—0·03	—0·10	—3·71
	Phalodi	+0·08	—0·07	+0·03	—0·02	—0·33	—0·88	+1·12	+1·09	—0·62	0	0	—0·03	+0·37
	Bikaner	—0·23	—0·21	—0·16	—0·16	—0·01	—1·71	—0·92	—0·29	—1·03	—0·09	—0·07	—0·18	—5·06
	Nagar	—0·11	—0·10	—0·19	—0·05	—0·37	—2·16	+0·25	—1·09	—1·86	—0·06	—0·09	—0·32	—6·15
	Didwana	+0·27	—0·16	—0·33	—0·07	—0·58	—1·18	—0·10	—4·34	—1·87	—0·15	—0·17	—0·25	—8·93
	Jhunjhunu	—0·19	—0·06	—0·27	—0·11	—0·31	—2·99	—5·60	—3·84	—2·26	—0·17	—0·06	—0·02	—15·88
	Khetri	—0·17	+0·06	—0·48	—0·14	+0·28	—2·20	—6·17	—5·19	—2·50	—0·30	—0·12	—0·16	—17·09
	Sikar	+0·05	—0·01	—0·23	—0·08	+0·15	—2·26	—1·47	—4·11	—1·57	—0·24	—0·14	—0·27	—10·14
	Sri Madhopur	+1·22	+0·55	—0·28	—0·09	—0·42	—2·18	—7·32	—3·12	—2·32	—0·06	—0·23	—0·45	—14·70
	Alwar	+0·83	+1·77	—0·30	—0·09	—0·96	—1·40	—2·91	—3·42	—4·58	—0·80	—0·20	—0·45	—12·51
	Bharatpur	+0·60	+1·28	—0·27	—0·11	—0·34	—1·40	—2·68	—4·34	—4·37	+2·86	—0·06	—0·26	—9·09
	Bandikui	+0·75	+1·47	—0·40	—0·06	—0·35	—1·94	+1·18	+1·24	—2·34	+0·06	—0·22	—0·45	—1·06
	Jaipur	+1·11	+0·35	—0·26	—0·17	+0·07	—3·02	—3·25	—1·95	—3·31	+0·73	—0·18	—0·36	—10·24
	Sambhar	+2·00	—0·05	—0·16	—0·13	—0·91	—1·27	—1·83	—2·07	—3·31	—0·33	—0·25	—0·42	—8·73
	Karauli	+0·61	+0·33	—0·11	—0·05	—0·48	—3·09	+0·78	—1·87	—4·90	+2·25	—0·11	—0·26	—6·90
	Lalsot	+0·87	+0·59	—0·07	—0·02	—0·11	—3·31	—1·18	—6·13	—3·11	+0·16	—0·13	—0·20	—12·64
	Tonk	+1·55	+0·44	—0·02	—0·06	—0·22	—2·94	—4·38	—7·14	—2·87	+1·03	—0·08	—0·23	—14·92
	Siwai Madhopur	+0·74	+0·37	—0·01	—0·03	—0·28	—4·13	—3·56	—5·99	—3·78	—0·12	—0·14	—0·09	—17·01
	Deoli	+0·61	+0·13	+0·16	—0·12	—0·87	—3·18	—4·18	—2·21	—4·45	—0·38	—0·14	—0·18	—14·81
	Kotah	+0·24	—0·21	+0·21	+0·11	—0·79	—2·21	—0·10	—1·20	—4·24	—6·11	—0·17	—0·25	—8·00
	Jhalrapatan	+0·07	+0·54	—0·07	+0·02	—0·27	—4·31	—2·94	+6·33	—5·57	—0·93	—0·26	—0·43	—7·82
	Ajmer	+1·05	—0·31	—0·13	—0·09	—0·18	—1·46	—1·61	—3·28	—2·86	+0·31	—0·21	—0·25	—9·02
	Nasirabad	+1·34	—0·33	+0·18	—0·03	—0·07	—1·06	—1·90	+2·92	—2·62	—0·03	—0·19	—0·28	—2·07

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
RAJPUTANA—*concld.*	Malpura	+0·87	+0·04	+0·15	−0·01	−0·10	−1·27	+3·00	−5·88	−2·15	+0·13	−0·03	−0·28	−5·62
	Beawar	+0·26	−0·11	+0·02	−0·12	−0·26	+0·13	−2·01	−4·00	−2·64	+0·29	−0·19	−0·24	−8·87
	Jodhpur	−0·21	−0·16	−0·03	−0·05	−0·47	−1·21	+1·30	−2·79	−2·05	−0·05	−0·12	−0·08	−5·92
	Pachpadra	−0·25	−0·07	−0·10	−0·04	−0·73	−1·75	−2·17	−2·74	−2·33	−0·06	−0·09	−0·04	−10·73
	Jasol	−0·03	−0·05	−0·10	−0·02	−0·56	−1·89	−0·99	−3·43	−1·56	−0·01	−0·21	+0·17	−8·68
	Barmer	−0·09	−0·07	−0·01	−0·01	−1·42	−1·81	−1·55	−2·44	−1·91	−0·04	−0·14	+0·09	−8·46
	Pali	+0·54	−0·03	−0·12	0	−0·31	−2·65	−2·72	−2·94	−1·58	−0·11	−0·29	−0·10	−10·31
	Shahpura	+0·69	−0·17	+0·24	−0·02	−0·57	−2·94	+0·23	−2·90	−4·14	−0·06	−0·12	−0·23	−9·99
	Erinpura	+0·17	−0·23	−0·06	−0·03	−0·36	−2·05	−3·95	−1·12	−1·69	−0·32	−0·20	−0·13	−9·97
	Sirohi	0	−0·15	−0·09	−0·02	−6·77	−3·96	−6·85	−2·54	−3·37	−0·04	−0·25	−0·06	−18·19
	Mount Abu	+0·24	−0·17	−0·02	−0·03	−0·45	−2·54	−7·10	−7·50	−4·46	−0·65	−0·16	−0·11	−22·95
	Kotra	−0·13	−0·22	−0·04	−0·03	−0·15	−3·61	−7·88	−3·08	−5·38	−0·58	−0·20	−0·14	−21·44
	Udaipur	+0·05	−0·15	−0·08	−0·05	+0·19	−2·88	−2·47	+0·29	−3·27	−0·44	−0·21	−0·16	−9·18
	Partabgarh	−0·23	−0·08	−0·01	−0·01	−0·35	−6·01	−5·18	−3·46	−4·25	−0·59	−0·31	−0·27	−20·75
	Kherware	−0·01	−0·17	+0·12	−0·02	−0·38	−4·26	−4·19	−2·94	−4·45	+0·10	−0·16	−0·10	−16·46
	Banswara	−0·12	−0·11	−0·01	−0·01	−0·29	−5·09	−3·67	+0·24	−8·53	−0·74	−0·26	−0·35	−18·94
	Neemuch (Obsy.)	−0·11	−0·13	−0·03	+0·11	−0·46	−4·08	−4·46	−3·88	−4·49	−0·05	−0·18	−0·27	−18·03
CENTRAL INDIA	Sirdarpore	−0·18	−0·18	−0·03	+0·22	−0·17	−2·17	−4·18	+1·93	−6·97	−1·07	−0·23	−0·16	−13·19
	Agar	+0·75	−0·30	+0·01	−0·06	−0·27	−4·94	−3·99	+2·82	−5·36	−0·47	−0·20	−0·41	−12·42
	Rutlam	+0·08	−0·17	+0·09	+0·08	−0·05	−4·60	−3·47	−1·42	−7·17	−0·98	−0·26	−0·23	−18·10
	Indore	+0·48	−0·26	+0·06	−0·03	+0·26	−4·95	−2·17	+1·72	−6·23	−0·97	−0·28	−0·20	−12·57
	Bhopal (Sehore)	+2·08	+0·08	+1·80	+0·27	−0·30	−5·94	−6·97	+3·77	−8·03	−1·26	−0·43	−0·84	−15·77
	Goona	+0·52	−0·09	+0·24	+0·08	−0·41	−5·72	+1·58	+5·31	−5·23	−0·32	−0·39	−0·34	−4·77
	Morar	+0·90	+0·09	−0·17	−0·10	−9·30	−1·76	−2·77	+4·15	−3·98	−0·40	−0·04	+0·04	−4·34
	Nowgong	+1·34	+2·59	−0·02	−0·05	−0·18	−5·13	−8·46	+7·20	−2·20	−1·16	−3·19	−0·48	−6·74
	Sutna	+1·04	−0·02	−0·29	−0·04	−0·09	−5·94	−5·21	+8·00	+2·93	−2·15	−0·30	−0·37	−2·44
	Nagode	+1·66	+0·28	−0·19	−0·13	−0·39	−5·59	−10·30	+9·56	+2·66	−1·85	−0·19	+0·47	−4·95
	Maihar	+1·42	−0·24	−0·30	+0·61	−0·37	−6·96	+0·64	+3·48	+8·52	−2·25	−0·53	−0·54	+3·48
	Rewah	+1·17	+0·80	−0·24	−0·22	−0·11	−6·35	+0·83	+7·92	+5·65	−2·42	−0·33	−0·33	+6·37
	Ramnagar	+1·12	+0·20	−0·07	+0·34	+0·29	−7·22	+2·34	+11·24	+0·45	−2·43	−0·37	−0·59	+4·72
	Sihawal (Bardi)	+1·04	+1·81	−0·69	−0·07	−0·37	−5·68	−3·96	+7·79	+5·08	−1·93	−0·60	−0·45	+1·98
	Tyonthar	+1·30	+0·31	+0·93	−0·06	−0·38	−5·51	+9·04	+17·01	+6·65	−2·52	−0·22	−0·43	+26·12
	Sohagpur	+0·99	+3·08	−0·04	+0·64	−0·25	−5·85	+3·65	+11·97	+8·91	−2·32	−0·97	−0·53	+19·27

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
United Provinces.	Chakrata . .	+7·36	+3·30	−0·51	−1·34	+1·19	−6·20	+1·49	+7·17	−3·13	−0·85	−0·38	+0·24	+8·34
	Mussooree .	+0·82	−0·56	+0·10	−1·15	+0·81	−7·79	+5·44	+19·70	−8·02	−0·36	−0·40	−0·19	+8·40
	Srinagar . .	+1·46	+0·36	−0·21	−0·80	+0·23	−3·91	−0·89	+6·32	−1·74	+1·52	−0·26	+0·02	+2·10
	Pauri . .	+2·17	+1·13	−0·07	−1·17	−0·35	−3·81	−0·35	+9·63	−2·48	−0·83	−0·31	+0·14	+3·70
	Ranikhet .	+1·40	+1·27	+0·15	−1·05	−0·42	−5·26	−1·74	+5·67	−1·66	−0·08	−0·28	+0·29	−1·71
	Almora . .	+0·46	+1·91	+1·15	−0·82	−0·10	−5·32	+4·49	+6·50	−1·09	−0·77	−0·21	+0·94	+7·14
	Pithoragarh .	+2·05	+0·42	−1·56	−1·43	−0·16	−5·44	+0·32	+3·52	+1·81	−1·46	−0·15	+0·83	−1·25
	Naini Tal .	+7·34	+2·09	−0·40	−0·25	−1·10	−11·04	+2·90	+23·25	−1·26	+5·16	−0·24	+0·51	+26·96
	Dehra Dun .	+2·63	+1·15	+0·09	−0·60	+0·29	−7·45	−9·37	+26·07	−2·51	−0·17	−0·21	−0·20	+9·72
	Saharanpur .	+1·43	+1·07	+0·30	−0·34	+0·51	−3·49	+2·05	+6·89	−3·59	+0·51	−0·23	−0·16	+4·95
	Roorkee . .	+1·67	+1·14	+0·08	−0·31	+0·12	−4·07	+1·52	+3·11	−5·22	+0·14	−0·25	−0·05	−2·12
	Muzaffarnagar .	+0·64	+0·23	+0·45	−0·37	−0·57	−2·84	−1·49	+3·14	−2·13	+0·71	−0·12	−0·26	−2·61
	Bijnor . .	+1·28	−0·19	+0·46	−0·44	−0·52	−4·41	+2·89	+8·86	−5·21	+0·33	−0·14	+0·09	+3·00
	Meerut . .	+1·74	+0·27	−0·23	−0·34	−0·73	−3·20	+0·53	+4·04	−2·49	−0·46	−0·09	−0·25	−1·21
	Moradabad .	+2·93	+1·68	−0·07	−0·17	−0·61	−3·66	−7·47	+12·05	−4·00	−0·45	−0·11	+0·24	+0·36
	Rudarpur .	+1·68	+0·20	−0·41	−0·23	+0·37	−3·79	−5·33	+10·56	+4·81	−0·68	−0·08	+0·82	+7·92
	Pilibhit . .	+1·66	+0·50	−0·24	−0·29	+0·13	−4·05	−6·22	−0·40	+5·44	−1·21	−0·10	+0·17	−4·61
	Bulandshahr .	+1·17	−0·58	−0·28	−0·27	−0·54	−1·26	−2·64	+5·25	−4·04	−0·45	−0·08	−0·24	−3·96
	Bareilly . .	+1·18	+0·31	−0·15	+0·24	−0·44	−4·23	−5·62	+7·27	−0·62	−1·08	−0·11	+0·27	−3·46
	Budaun . .	+0·79	+0·45	−0·36	−0·14	−0·44	−1·50	−4·40	+0·42	−3·54	−0·90	−0·11	+0·21	−9·52
	Shahjahanpur .	+1·46	−0·10	−0·35	−0·15	−0·89	−3·58	+2·04	+2·40	+1·77	−1·17	−0·14	+0·29	+1·58
	Aligarh . .	+0·37	+0·63	−0·34	−0·17	−0·46	−2·48	−4·82	+0·18	−4·29	−0·38	−0·04	−0·24	−12·04
	Muttra . .	+0·39	+1·00	−0·25	−0·17	−0·51	−2·62	−5·30	−1·92	−4·00	−0·22	−0·06	−0·18	−13·84
	Agra . .	+0·62	+0·29	+0·02	−0·15	−0·28	−1·97	−6·56	+2·15	−3·94	−0·21	−0·06	−0·07	−10·16
	Etah . .	+1·06	+0·32	−0·35	−0·08	−0·34	−2·59	−6·25	+1·65	−4·61	−0·84	−0·05	+0·13	−11·95
	Mainpuri .	+1·70	+0·25	−0·21	−0·11	−0·47	−3·15	−6·27	+1·78	−4·97	−0·84	−0·11	+0·46	−11·94
	Farrukhabad .	+1·37	+0·50	−0·27	−0·09	−0·54	−3·20	−2·57	+4·32	−4·08	−0·34	−0·09	+0·10	−4·89
	Etawah . .	+1·05	+0·42	−0·40	−0·12	−0·36	−2·68	−3·49	+5·77	−1·83	−0·78	−0·09	+0·05	−2·46
	Cawnpore .	+0·30	+1·25	+0·01	−0·13	−0·45	−3·54	−2·92	−1·14	+1·37	−1·27	−0·14	−0·17	−6·83
	Fatehpur .	+1·70	+1·29	−0·10	+0·27	−0·20	−3·89	−2·49	+9·09	−0·85	−1·62	−0·18	−0·26	+2·76
	Jalaun (Orai) .	+0·74	+0·98	−0·17	−0·05	−0·27	−2·87	−5·99	+5·41	−4·70	−0·60	−0·05	−0·23	−7·80
	Hamirpur .	+1·24	+2·74	−0·11	−0·09	−0·29	−4·19	−4·36	+7·15	+0·72	−1·11	−0·18	−0·30	+1·22
	Banda . .	+1·69	+0·49	−0·25	−0·11	−0·37	−4·07	−3·75	+3·40	−0·12	−1·49	−0·39	−0·24	−5·21
	Allahabad .	+2·27	+0·71	−0·06	−0·12	−0·26	−5·09	−5·62	+1·71	+3·94	−2·49	−0·26	−0·22	−5·49
	Basti . .	+2·20	+0·99	−0·31	−0·23	−0·03	−5·72	−2·75	+1·09	−5·45	−2·86	−0·06	−0·11	−13·24
	Gorakhpur .	+1·74	+0·54	−0·27	−0·35	+2·54	−6·20	+3·03	−1·84	+4·15	−3·40	−0·10	−0·11	−0·27

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
		Inches.	Inches.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
United Provinces—*contd.*	Azamgarh	+2·72	+0·89	+0·26	+0·21	+0·49	−5·39	−0·31	− 2·76	+1·72	−1·96	−0·11	−0·14	− 4·38
	Jaunpur	+1·46	+1·11	+0·24	−0·12	−0·58	−5·05	−4·72	− 1·77	−2·08	−3·19	−0·14	−0·12	−14·96
	Benares	+2·41	+0·99	+0·86	−0·13	−0·38	−5·13	−7·70	+ 3·97	−0·39	−2·15	−0·19	−0·14	− 7·98
	Mirzapur	+3·16	+0·78	−0·06	−0·13	−0·31	−4·32	−8·35	+ 0·84	−1·33	−2·12	−0·29	−0·15	−12·28
	Ballia	+1·53	+1·26	+0·29	−0·24	+0·47	−4·71	+3·82	+ 2·14	−1·85	−2·71	−0·20	−0·12	− 0·38
	Dudhi	+2·45	+0·43	+0·28	+0·27	−0·62	−3·36	−2·45	− 2·36	−1·22	−1·85	−0·31	−0·28	− 9·02
	Robertsganj	+2·94	+0·95	−0·23	−0·17	−0·67	−5·16	−6·65	+ 1·07	−0·28	−2·52	−0·42	−0·23	−12·37
	Jhansi	+1·42	+0·90	−0·18	+0·31	−0·11	−4·70	−1·35	+15·74	−4·87	−0·72	−0·07	−0·17	+ 6·20
	Lalitpur	+0·21	+0·43	−0·34	+0·16	−0·55	−5·03	+1·29	+16·31	−2·77	−1·00	−0·19	−0·38	+ 8·14
Oudh	Kheri	+2·08	−0·02	−0·11	+0·08	−0·62	−3·81	−3·13	− 4·65	+8·10	−1·15	−0·17	+0·03	− 3·37
	Sitapur	+1·57	+0·21	−0·40	−0·28	−0·79	−4·78	−4·40	+ 0·66	+9·19	−1·47	−0·17	0	− 0·66
	Bahraich	+2·37	+0·09	−0·36	−0·33	−1·42	−3·22	−5·22	+ 1·88	+3·44	−1·84	−0·13	−0·19	− 4·93
	Gonda	+1·73	+0·32	−0·36	−0·15	−1·05	−6·08	−7·86	− 3·41	+1·67	−0·89	−0·10	−0·19	−16·37
	Hardoi	+1·40	+0·24	−0·39	−0·16	−0·24	−2·84	+1·42	− 2·95	+0·09	+0·01	−0·13	−0·03	− 3·58
	Nawabganj (Bara Banki).	+1·24	+1·84	−0·37	−0·17	+0·72	−5·14	−4·10	+ 4·18	+0·47	−0·93	−0·08	−0·35	− 2·69
	Lucknow	+0·76	+1·27	+0·25	−0·12	−0·67	−4·31	−2·50	− 1·80	+5·66	−1·08	−0·09	−0·39	− 3·52
	Unao	+0·22	+1·63	−0·31	−0·11	−0·30	−4·62	−2·22	+ 1·26	−0·38	−1·20	−0·10	−0·31	− 6·44
	Fyzabad	+0·82	+1·15	−0·48	−0·17	−0·64	−5·97	−4·24	− 7·49	+5·45	−2·10	−0·09	−0·22	−13·98
	Sultanpur	+1·69	+0·90	−0·14	−0·20	−0·43	−6·26	−6·33	− 6·72	+3·03	−2·41	−0·17	−0·23	−17·27
	Rae Bareli	+1·32	+0·94	−0·05	+0·17	−0·29	−4·97	−1·30	+ 0·33	−0·97	−1·47	−0·12	−0·22	− 6·63
	Partabgarh	+1·97	+0·86	+0·17	−0·30	−0·41	−5·12	−3·85	+ 0·90	+1·44	−2·49	−0·24	−0·28	− 6·99
Bengal	Motihari	+1·82	+0·14	+0·16	−0·60	+2·50	+1·68	−1·32	+ 2·66	−3·83	−3·22	−0·13	−0·13	− 0·27
	Darbhanga	+1·74	−0·37	+0·14	−0·59	+2·62	−0·20	−7·54	+ 3·61	−5·57	−2·74	+0·23	−0·12	− 8·79
	Siwan	+1·89	+0·15	−0·08	−0·21	+0·05	−3·79	+3·04	− 2·49	−2·84	−3·27	0	−0·11	− 7·66
	Buxar	+1·93	+1·00	+0·24	−0·15	+0·70	−5·03	−4·19	+ 2·63	−2·85	−2·32	−0·39	−0·18	− 8·61
	Chapra	+1·30	+0·44	+0·20	−0·31	+0·69	−5·17	−0·39	+ 2·73	−2·31	−0·94	−0·09	−0·09	− 3·94
	Arrah	+1·54	+0·97	+0·51	−0·44	+0·66	−6·28	−4·76	+ 4·50	−5·55	−2·73	−0·13	−0·13	−12·04
	Patna (Bankipore)	+1·58	+0·85	+0·12	−0·25	+1·09	−5·27	−3·04	− 2·46	−3·89	−2·67	−0·01	−0·15	−14·10
	Muzaffarpur	+1·03	−0·35	+0·11	−0·45	+1·83	−4·64	−4·96	+ 5·11	−1·19	−2·81	−0·13	−0·07	− 6·52
	Barh	+1·69	+0·10	+0·16	−0·15	−0·30	−4·86	+6·71	− 1·17	−1·18	−2·46	+0·86	−0·09	− 0·69
	Sasaram	+2·32	+1·53	+0·32	−0·15	−0·08	−5·09	−2·21	+ 3·19	+4·81	−1·81	−0·29	−0·21	+ 2·33
	Gaya	+2·54	+0·59	−0·23	−0·24	+1·09	−6·26	−2·43	+ 5·70	+3·70	−2·15	−0·18	−0·16	+ 1·97
	Jamui	+2·68	+0·12	−0·39	−0·41	+0·84	−5·55	−1·62	− 0·97	+1·77	−2·24	+0·51	−0·07	− 5·33
	Madhipura	+1·05	−0·60	−0·05	−0·91	−1·47	−4·60	−2·78	+ 4·51	−6·28	− 3·49	+0·47	−0·06	−14·21
	Monghyr	+1·55	−0·47	−0·31	−0·47	−0·71	−1·45	−6·02	+ 4·21	−5·04	−3·20	+0·58	−0·08	−11·41
	Bhagalpur	+1·08	−0·49	−0·05	−0·66	+3·64	−4·56	−5·03	− 2·60	−2·98	−3·52	+0·67	−0·08	−14·58

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
BENGAL—*contd.*	Godda	+1·20	+0·03	—0·44	—0·51	— 0·79	— 1·34	— 3·11	+ 3·16	— 2·96	—1·91	+ 0·67	—0·10	— 6·10
	Palamau	+2·95	+1·46	—0·47	+0·20	— 0·89	— 4·10	— 4·68	— 2·20	+ 1·38	—1·92	— 0·32	—0·26	— 8·85
	Hazaribagh	+2·54	+1·98	—0·36	—0·29	+ 1·60	— 8·19	— 6·97	— 0·11	+ 3·70	—1·86	—0·10	—0·20	— 8·26
	Ranchi	+2·28	+3·16	—1·20	+0·69	+ 0·41	— 6·74	— 2·00	+ 7·63	+ 1·81	—2·45	— 0·21	—0·18	+ 3·20
	Lohardaga	+4·07	+3·51	—0·72	+0·39	— 1·85	— 4·04	— 6·56	+ 3·85	+ 3·14	+1·97	— 0·60	—0·39	+ 2·77
	Naya Dumka	+0·91	+0·03	—0·52	—0·47	— 2·00	— 6·72	— 1·25	+ 0·40	— 3·83	—1·54	+ 0·50	—0·18	—14·67
	Gobindpur	+3·15	+0·53	—0·48	—0·23	— 1·15	— 5·29	+ 0·55	+ 2·81	+ 1·59	—0·06	+ 0·26	—0·16	+ 1·52
	Purulia	+3·23	+1·53	—0·68	+0·55	— 0·08	— 6·00	— 0·24	— 3·19	+ 3·70	+1·12	+ 0·48	—0·20	+ 0·22
	Sirguja	+1·33	+5·44	+0·64	—0·26	— 0·28	— 5·54	— 4·24	+ 4·59	+ 2·95	—1·53	— 0·65	—0·37	+ 2·08
	Jushpore	+4·17	+2·12	—0·56	—0·16	— 0·30	— 8·19	+ 0·35	+ 0·33	— 1·27	—1·60	— 0·52	—0·31	— 5·94
	Gangpur	+4·69	+5·84	—0·97	—0·68	— 0·98	—10·05	— 4·49	+10·19	— 8·45	—2·28	— 0·84	—0·36	— 8·38
	Chaibassa	+5·47	+3·11	—1·02	—0·36	— 2·07	— 6·81	— 1·18	+ 3·18	— 1·52	—2·00	+ 0·44	—0·27	— 3·03
	Barreepudda	+ ·28	+1·42	—0·47	+3·82	— 0·76	— 6·67	— 1·58	— 2·36	— 3·30	— 1·54	+ 2·18	—0·13	— 6·11
	Keonjhar	+2·94	+6·01	+0·11	0	+ 3·20	— 3·67	— 0·26	+ 7·38	— 0·23	—1·41	+ 0·19	—0·18	+14·08
	Jellasore	+1·58	+1·97	—0·79	+0·90	— 2·03	— 1·79	— 5·48	+ 0·44	— 4·06	—2·72	+ 4·99	—0·11	— 7·10
	Balasore	+1·06	+0·20	—1·19	+1·73	— 4·02	— 8·17	— 6·70	— 2·84	+ 8·77	—0·95	+ 2·75	—0·20	— 9·56
	Bhadrak	+3·55	+0·70	—0·32	—0·80	+ 3·23	— 2·24	— 0·16	— 1·73	+ 0·51	+1·09	+ 3·17	—0·27	+ 6·73
	Talcher	+3·26	+2·38	—0·44	+0·71	+ 3·45	— 7·32	+ 0·97	— 1·15	— 2·95	+0·29	— 0·43	—0·22	— 1·45
	Narsinghpur	+1·16	+2·31	—0·81	+1·93	+ 1·20	— 5·12	+ 6·08	— 0·02	— 2·02	—1·47	+ 0·44	—0·07	+ 3·61
	Angul	+1·42	+3·38	—0·80	+0·02	— 2·35	— 6·43	— 3·20	— 2·97	— 3·44	—3·08	— 0·10	—0·39	—17·94
	Dhenkanal	+0·53	+3·71	—1·28	+1·30	+ 0·53	— 9·03	+ 2·08	+ 6·47	— 5·26	—0·95	+ 1·16	—0·30	— 1·02
	Bispara	+0·56	+2·66	—0·67	+2·22	+ 2·00	— 7·68	+ 0·74	+ 2·09	— 3·79	—2·96	— 0·19	—0·30	— 5·32
	Kunjabangar	+0·89	+2·01	—0·12	+2·75	— 0·48	— 7·76	— 1·21	+ 0·53	— 6·11	—3·53	+ 1·00	—0·13	—12·16
	Banki(Charchika)	+0·52	+1·45	—1·20	+2·72	+ 0·18	— 7·73	— 2·56	+0·66	— 3·57	—2·36	+ 1·63	—0·44	—10·70
	Cuttack	+0·95	+2·30	—1·27	—0·31	— 0·33	— 7·33	+ 0·38	— 5·03	— 3·76	—3·11	+ 2·10	—0·38	—15·79
	Baramba	+0·53	+1·39	—1·02	+5·87	— 1·56	— 8·58	— 1·02	— 1·84	— 1·90	—1·42	+ 0·62	—0·03	— 8·96
	False Point	+1·58	+2·34	—0·82	—1·56	— 4·46	— 7·33	— 4·98	— 5·46	— 2·99	—3·87	+15·73	—0·52	—12·34
	Puri	+1·44	+1·26	—0·36	—0·52	+ 0·76	— 7·05	— 5·80	— 6·25	— 2·27	—1·63	+ 8·52	—0·60	—12·50
	Darjeeling	+0·92	—1·04	+0·32	—2·59	+ 0·93	— 4·62	+ 0·83	+ 0·64	— 7·89	—0·50	+ 0·19	—0·07	—13·08
	Gantak	+1·34	—2·19	+1·23	+0·73	—11·95	+ 9·27	— 0·48	— 1·66	— 9·45	—3·79	+ 3·42	+1·09	—12·45
	Mongpoo	+0·61	—0·68	—0·28	—2·51	— 1·42	— 3·23	— 6·82	— 3·00	—10·31	—2·77	+ 0·32	+0·09	—30·00
	Pedong	+0·34	—1·03	—0·73	—0·73	— 3·49	+ 6·85	— 5·63	+ 1·60	— 8·36	—2·19	+ 0·57	+0·51	—12·29
	Buxa	+0·59	—0·70	—1·55	—5·64	— 6·41	— 9·48	—13·34	— 8·39	—15·39	—5·36	+ 0·37	—0·22	—65·52
	Jalpaiguri	+0·01	+0·51	—0·88	—3·26	— 2·80	— 5·90	+ 8·59	+ 5·87	—16·72	—4·16	+ 0·35	+0·18	—18·21
	Cooch Behar	+0·26	+0·93	—0·98	—1·78	— 7·40	— 2·49	— 7·04	+ 7·43	— 6·40	—3·85	+ 0·48	—0·07	—20·91
	Kishanganj	+0·42	+0·30	+0·18	—0·76	— 2·69	— 9·43	+ 1·31	+ 7·70	—10·70	—1·06	+ 0·11	—0·11	—14·73

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

Provinces.	Station.	January	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
Bengal—*concld.*	Purnea	+0·80	+0·31	+0·25	—1·36	— 2·26	— 5·97	— 3·25	+0·97	— 7·48	— 3·40	+0·59	—0·11	—20·91
	Rangpore	+0·34	—0·40	—0·94	—2·59	— 1·39	— 1·23	— 5·91	—3·95	— 2·93	— 3·28	+0·53	—0·09	—21·84
	Dinajpore	+0·65	—0·55	—0·63	—1·33	— 4·53	— 5·45	— 4·23	—3·78	— 2·24	— 2·38	+0·66	—0·08	—23·89
	Malda	+0·99	—0·67	—0·77	—0·46	+ 0·90	— 2·80	— 3·64	+0·91	— 0·45	— 2·56	+1·26	—0·27	— 7·56
	Bogra	—0·33	—0·70	—0·78	—2·90	— 0·38	+ 4·46	— 3·11	—1·30	+ 9·70	— 2·99	+3·39	—0·09	+ 4·97
	Rampur Boalia	+0·35	—0·53	—1·04	—0·61	+ 1·89	— 0·05	— 7·51	—4·67	+10·76	— 1·02	+2·07	—0·07	— 0·43
	Pubna	+0·19	—0·36	—1·31	+0·16	+ 1·57	+ 5·80	+ 3·17	—5·79	+ 9·29	— 1·44	+1·95	—0·08	+13·15
	Suri	+0·50	—0·02	—0·30	+0·88	+ 0·15	— 2·77	— 0·96	—4·32	— 3·33	— 1·66	+2·01	—0·13	— 9·95
	Bankura	+1·56	+2·23	—1·17	—0·09	— 1·17	— 3·09	+ 0·50	—3·97	+ 5·62	— 2·34	+0·78	—0·14	— 1·28
	Burdwan	+0·66	+1·21	—1·33	+0·41	— 0·92	— 3·50	— 1·22	—3·11	+ 0·56	— 3·88	+2·47	—0·13	— 8·78
	Hooghly	+0·65	—0·12	—1·59	+0·22	+ 1·69	— 3·86	— 4·39	+1·66	+ 8·99	— 1·81	+2·06	—0·20	+ 3·30
	Howrah	+1·01	+0·47	—1·60	+0·50	— 0·84	— 1·56	— 1·52	—1·34	+ 8·93	— 2·23	+2·17	—0·20	+ 3·79
	Midnapore	+3·01	+4·55	0	+2·29	— 1·02	— 3·47	— 1·53	+4·99	+ 1·53	— 2·45	+4·44	—0·21	+12·13
	Tamluk	+1·86	+1·97	—1·65	+1·80	— 0·30	+ 1·01	— 3·83	—2·24	+ 6·13	+ 0·31	+3·22	—0·20	+ 8·08
	Berhampore	+0·15	—0·37	—0·60	—0·37	+ 0·84	— 1·94	— 4·55	—4·11	— 1·10	— 3·35	+2·48	—0·10	—13·02
	Krishnagar	+0·36	+0·24	—1·01	+1·39	+ 1·35	— 3·49	— 2·35	—1·58	+ 3·63	— 0·98	+2·83	—0·12	+ 0·27
	Faridpur	+0·01	—0·78	—2·05	+1·93	— 2·76	+ 6·01	— 2·93	—4·62	+ 5·87	— 0·22	+2·07	—0·09	+ 2·44
	Jessore	+0·03	+0·20	—1·92	+0·68	+ 0·35	— 1·81	— 0·20	—4·77	+ 4·51	— 4·69	+1·38	—0·15	— 6·39
	Basirhat	+0·40	+0·25	—1·72	+1·82	— 1·18	+ 2·55	— 0·97	—0·67	+ 6·33	— 2·48	+2·52	—0·16	+ 6·69
	Khulna	— 0·42	—0·46	—1·92	+2·13	— 0·54	— 4·04	— 6·26	—3·38	+ 2·27	+ 2·84	+2·38	—0·23	— 7·63
	Barisal	—0·33	—0·05	+0·05	+2·09	— 4·87	+ 4·25	— 7·13	—4·40	+ 7·48	— 1·76	+4·92	—0·32	— 0·07
	Alipore (Obsy.)	+0·99	+0·84	—1·30	+0·07	+ 0·59	— 2·04	+ 1·04	+0·80	+10·02	— 1·71	+2·13	—0·37	+11·06
	Saugor Island	+0·33	+2·01	—1·18	+2·94	— 3·23	— 0·95	+ 2·51	—1·11	— 2·45	— 2·85	+4·70	—0·24	+ 0·48
	Mymensingh	—0·04	—0·04	—0·89	—2·97	+ 4·68	+12·33	— 1·43	+0·59	+29·51	+ 0·12	+6·39	—0·09	+48·56
	Kishorganj	+0·57	—0·72	—2·28	+0·14	— 0·77	+ 9·79	— 2·81	—1·78	+ 9·04	— 0·22	+1·67	—0·23	+12·40
	Atia (Tangail)	+0·45	—0·80	—1·34	—1·14	— 2·07	+ 3·90	— 4·36	—3·18	+15·71	— 3·10	+2·60	—0·09	+ 6·58
	Dacca	—0·11	—0·60	—2·28	— 2·50	— 2·78	+22·63	— 8·94	—1·02	+ 8·31	— 3·35	+1·46	—0·19	+10·63
	Comilla	—0·26	—0·41	—2·47	—3·09	— 7·64	+11·78	—12·80	—6·88	+ 6·16	+ 0·65	+1·45	—0·24	—13·75
	Agartalla	—0·62	—1·09	—4·00	+0·43	— 8·89	+17·63	— 8·52	+7·01	— 3·43	+ 0·87	+1·46	—0·34	—13·51
	Noakhali	—0·45	+0·04	—2·83	+1·30	— 6·44	+ 5·45	— 4·43	+1·53	+17·54	— 0·77	+4·20	—0·39	+14·75
	Demagiri	—0·22	—0·44	—2·85	+3·64	—10·20	+ 6·27	— 5·01	—3·42	— 7·98	+ 4·02	+0·05	—0·74	—16·88
	Rangamatia Hills	—0·48	—1·05	—3·33	—0·94	— 7·70	— 0·05	— 6·18	—9·01	+ 0·08	+ 2·25	+1·54	—0·54	—25·41
	Chittagong	—0·40	—1·17	—1·99	—0·15	— 8·51	— 2·08	— 6·77	—9·35	+ 6·52	+ 5·27	+2·41	—0·62	—16·84
	Cox's Bazar	—0·54	—0·13	—1·03	+0·36	— 8·10	+17·10	—14·00	—7·44	+12·07	+17·81	+1·37	—0·33	+17·14
Assam	Sylhet	+0·24	—1·40	—4·70	—3·54	—14·25	+11·55	— 7·19	—4·04	+ 2·98	+16·73	+2·12	—0·27	— 1·77
	Silchar	—0·45	—2·30	—7·41	+2·68	— 9·98	— 0·51	— 0·18	—0·69	+ 1·33	— 0·88	+1·75	—0·58	—17·22

TABLE XXV.—*Comparison of the monthly and total rainfall in inches) in 1901, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
Assam—*concld.*	Chera Poonjee	+0·82	−1·81	−6·90	+12·34	−25·23	−25·23	−42·52	−24·69	−7·44	+19·22	+10·30	− 0·26	−91·40
	Tura	0	−0·60	−1·95	− 4·69	− 4·47	− 2·11	+ 5·49	− 2·99	−2·91	− 1·19	+ 4·97	− 0·13	−10·58
	Shillong	−0·31	−0·85	−1·61	− 1·23	− 2·17	+ 1·51	− 6·95	+ 1·09	+1·14	+ 5·78	+ 2·72	− 0·27	− 1·15
	Dhubri	+0·86	−0·20	−1·12	− 2·68	− 7·27	+ 0·49	− 9·92	− 0·27	−4·97	− 1·69	+ 2·38	− 0·15	−24·54
	Goalpara	+0·76	−0·22	−1·77	− 3·91	− 3·24	+ 9·62	− 3·20	+ 3·02	−4·67	− 3·43	+ 2·49	− 0·22	− 4·77
	Kulsi	+0·04	−0·37	−1·51	− 0·20	− 4·74	− 0·33	+ 0·16	+13·93	−2·95	+ 1·76	+ 4·82	− 0·37	+10·24
	Gauhati	+0·31	−0·87	−1·38	+ 0·27	− 7·14	+ 1·54	− 3·21	− 1·52	−1·06	+ 0·69	+ 3·19	+ 0·17	− 9·01
	Nowgong	−0·58	−0·79	−1·87	− 0·03	− 5·98	− 7·29	− 4·13	+ 4·38	−4·12	+ 5·30	+ 4·82	− 0·17	−10·46
	Tezpur	+0·19	−0·83	−1·32	+ 0·54	− 3·37	− 0·73	− 5·55	+ 7·21	−2·96	+ 0·25	+ 4·93	− 0·52	−"2·16
	Charduer	+0·21	−0·57	−1·59	− 3·14	− 7·55	− 2·90	+ 5·14	+ 1·67	− 6·77	− 1·34	+ 4·37	− 0·62	−12·91
	Sibsagar	+0·42	−0·54	−4·10	− 2·43	− 2·90	+ 1·53	− 0·28	− 1·06	−0·12	+ 2·08	+ 4·71	− 0·41	− 3·10
	Dibrugarh	+0·96	+0·75	−4·08	+ 3·70	− 7·72	+ 3·84	− 4·15	− 0·64	+2·83	− 0·25	+ 3·49	− 0·71	− 1·98
	Kohima	+0·24	−0·71	−0·56	− 0·67	− 1·99	− 5·75	− 2·29	+ 3·96	+4·51	+ 4·24	+ 2·00	− 0·22	+ 2·76
Central Provinces.	Saugor	+2·21	−0·35	+0·61	− 0·17	− 0·29	− 6·17	− 0·32	+11·72	−4·24	− 0·77	− 0·36	− 0·57	+ 1·30
	Damoh	+1·12	−0·31	+0·34	− 0·13	− 0·16	− 5·44	− 1·22	+12·15	−1·69	− 1·63	− 0·34	− 0·45	+ 2·24
	Jubbulpore	+1·60	+0·63	+0·01	+ 0·10	− 0·42	− 7·31	− 7·95	+19·89	−3·36	− 1·03	− 0·40	− 0·26	+ 1·50
	Narsinghpur	+1·74	−0·20	+0·17	+ 0·03	− 0·31	− 4·73	− 1·34	+ 8·44	−4·69	− 1·57	− 0·27	− 0·38	− 3·11
	Hoshangabad	+1·79	+0·16	−0·12	+ 0·10	− 0·47	− 4·64	− 0·66	+ 9·13	−7·23	− 0·96	− 0·43	− 0·47	− 3·80
	Khandwa	+1·16	−0·22	+0·03	− 0·04	− 0·30	− 3·93	− 3·75	− 1·48	−5·41	− 1·00	− 0·17	− 0·42	−15·53
	Badnur (Betul)	+4·03	−0·09	+2·34	+ 0·18	− 0·27	− 0·86	+ 4·07	+ 4·30	−6·22	− 1·70	− 0·42	− 0·52	+ 4·84
	Pachmarhi	+2·93	+0·16	+1·01	+ 1·00	− 0·48	− 7·60	− 3·69	+20·41	−4·99	− 1·66	− 0·47	− 0·58	+ 6·04
	Chhindwara	+1·40	+2·13	+0·39	+ 0·30	+ 0·34	− 4·87	+ 4·05	+ 3·27	−4·19	− 1·47	− 0·46	− 0·36	+ 0·53
	Seoni	+1·73	+0·29	+1·04	+ 1·11	+ 0·13	− 6·56	− 1·56	+ 7·54	−1·11	− 1·65	− 0·47	− 0·61	− 0·12
	Balaghat	+1·05	+1·55	+1·06	+ 0·09	− 0·55	− 8·06	− 3·30	+10·24	−2·35	− 2·11	− 0·55	− 0·25	− 3·18
	Mandla	+0·83	+0·95	+0·45	− 0·34	+ 0·27	− 5·88	− 3·31	+ 7·85	−0·13	− 1·18	− 0·31	− 0·34	− 1·14
	Bilaspur	+0·82	+3·36	+1·18	− 0·47	− 0·22	− 7·38	+ 0·74	+ 2·08	+0·60	− 1·60	− 0·60	− 0·29	− 1·78
	Sarangarh	+2·71	+4·90	+0·64	− 0·17	− 0·55	− 8·03	− 8·32	+ 2·34	−3·73	− 2·69	− 0·79	− 0·16	−13·85
	Raigarh	+3·48	+3·60	+1·70	+ 0·08	− 0·44	− 8·41	− 4·35	+ 2·10	−2·22	− 0·95	− 0·39	− 0·23	− 6·03
	Sambalpur	+0·16	+4·39	−0·05	+ 0·94	− 0·75	− 9·65	− 4·86	+12·80	−1·05	− 0·84	− 0·22	− 0·27	+ 0·60
	Raipur	+0·39	+4·41	−0·06	− 0·15	+ 0·55	− 3·47	+ 0·13	+ 2·52	−2·65	− 1·38	− 0·69	− 0·22	− 0·62
	Dhamtari	+0·83	+7·43	+0·19	− 0·14	− 0·71	− 7·03	+ 0·84	+ 3·19	−4·02	+ 0·28	− 0·41	− 0·13	+ 0·32
	Bhandara	−0·21	+2·11	+1·95	+ 0·05	− 0·15	− 5·83	− 2·70	+15·25	−3·46	− 1·72	− 0·77	− 0·36	+ 3·26
	Nagpur	+0·36	+0·65	+0·38	+ 2·01	− 0·13	− 2·75	− 5·59	+ 4·11	−4·27	− 2·29	− 0·55	− 0·46	− 8·53
	Arvi	+2·13	+0·28	+0·08	− 0·18	− 0·29	− 0·76	− 4·36	+ 6·94	−2·88	− 2·51	− 0·40	− 0·42	− 2·37
	Wardha	+0·57	+1·92	−0·12	+ 0·41	− 0·46	− 2·02	− 4·40	+ 7·65	−1·07	− 1·17	− 0·63	− 0·38	+ 0·30
	Brahmapuri	+0·19	+4·00	+0·43	+ 0·77	− 0·36	− 3·41	− 0·74	+19·98	−0·92	− 2·20	− 0·62	− 0·41	+16·71

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
CENTRAL PROVINCES —*concld.*	Chanda	+0·51	+0·68	+0·10	+0·32	−1·20	− 3·21	+ 0·73	+ 4·38	+ 0·97	−0·79	−0·82	−0·33	+ 1·34
	Sironcha	+0·60	+3·65	−0·28	+3·61	−1·26	+ 1·05	+ 0·19	− 0·81	− 1·80	−1·78	−0·70	−0·26	+ 2·22
	Baster (Jagadalpore)	+1·26	+2·17	−0·58	−1·34	+2·14	− 7·28	− 4·18	+ 1·22	− 6·80	−0·57	−0·76	−0·23	−14·95
	Chikalda	+1·58	−0·16	−0·14	+0·56	+0·05	− 5·92	+ 2·18	+ 4·20	− 7·40	−1·42	−0·74	−0·87	− 8·08
BERAR	Ellichpur	+1·10	−0·24	−0·17	−0·14	+0·47	+ 1·22	− 0·83	+ 0·18	− 3·43	−1·92	−0·62	−0·56	− 4·94
	Amraoti	+2·15	−0·16	+0·05	+0·17	−0·61	− 3·38	− 5·78	+ 7·00	− 1·90	−1·59	−0·40	−0·49	− 4·94
	Akola	+0·87	−0·11	+0·63	+0·04	−0·33	− 0·49	− 3·42	+ 4·13	− 4·87	−0·43	−0·49	−0·68	− 5·12
	Buldana	+0·99	−0·24	+1·21	−0·04	−0·50	+ 1·27	+ 2·67	+ 5·30	− 4·17	+3·78	−0·53	−0·50	+ 9·24
	Basim	+2·41	−0·17	−0·14	+0·43	−0·11	− 1·81	+ 1·25	+ 6·63	− 5·31	+0·39	−0·85	−0·50	+ 2·22
	Yeotmal	+1·72	+1·16	+0·26	+0·56	−0·67	− 2·68	− 5·50	+ 7·16	− 2·73	−0·25	−0·63	−0·43	− 2·03
	Wun	+1·33	+1·87	+1·30	+1·01	+0·40	− 0·42	− 0·20	+ 4·60	+ 0·40	−0·23	−0·82	−0·33	+ 8·91
BOMBAY	Dhulia	−0·08	−0·06	+0·36	−0·06	−0·31	+ 0·90	− 1·04	− 0·73	− 3·85	+1·81	−0·69	−0·35	− 4·10
	Nasik	+0·11	−0·04	−0·04	+0·14	−0·56	− 3·28	− 3·16	+ 0·34	− 2·65	−2·94	−0·53	−0·24	−12·85
	Igatpuri	+0·24	−0·08	−0·03	+1·23	−0·78	− 8·55	+ 1·63	+ 8·21	− 7·25	−3·04	−0·36	−0·19	− 8·97
	Malegaon	+0·52	−0·12	+0·04	−0·11	+0·25	+ 1·36	− 1·99	− 2·01	− 5·33	+1·00	−0·49	−0·39	− 7·27
	Ahmednagar	+0·82	−0·14	+0·99	+0·88	−1·14	+ 3·05	− 1·87	− 2·38	− 4·47	−1·63	−0·97	−0·48	− 8·24
	Poona	+0·02	−0·05	−0·06	+0·57	+1·50	+ 0·28	− 0·34	+ 1·41	− 0·56	−1·77	−0·90	−0·22	− 0·12
	Lonavla	+0·45	−0·05	−0·07	−0·07	+0·24	− 6·62	+20·73	+49·52	−12·85	−2·87	−0·79	−0·18	+47·44
	Satara	−0·21	−0·10	+0·81	+0·97	+0·94	− 5·03	− 2·37	+ 2·45	+ 0·80	−0·73	−1·29	−0·45	− 4·21
	Mahabaleshvar	+0·13	+0·12	+0·45	+1·97	−0·34	−13·25	+ 7·65	+25·27	−21·68	−2·09	−0·29	−0·34	− 2·40
	Sholapur	+0·55	+0·03	−0·04	+1·09	+0·16	+ 3·38	+ 1·08	− 1·67	− 4·78	−3·05	−0·91	−0·33	− 4·49
	Kolhapur	+1·37	−0·08	+0·24	+1·31	+3·43	− 3·90	− 3·41	+ 4·02	+ 0·30	−0·09	−0·91	−0·18	+ 2·10
	Belgaum	−0·05	0	+0·01	+4·70	+0·49	+ 0·90	− 2·61	+ 0·75	+ 4·57	+0·73	−0·96	−0·24	+ 8·29
	Gokok	−0·05	+0·04	−0·13	+5·64	+0·60	− 0·88	− 1·35	− 1·22	+ 1·40	−3·08	−0·99	−0·64	− 0·66
	Dharwar	−0·10	−0·02	+0·22	+2·58	+1·10	+ 1·17	− 1·71	− 0·91	+ 1·43	−1·22	−1·60	+0·17	+ 1·11
	Hubli	−0·07	+0·08	+0·14	+1·67	+4·27	+ 0·29	− 1·71	− 1·22	+ 3·03	+1·17	−0·97	−0·22	+ 6·46
	Nargund	−0·10	+1·82	+0·10	+3·59	+1·92	− 0·83	− 1·73	− 2·64	+ 5·57	−4·53	−0·19	−0·29	+ 2·69
	Mundargi	−0·22	+0·50	−0·14	−0·38	−0·32	− 1·45	− 0·56	− 1·72	+ 0·06	+0·11	−1·35	−0·10	− 5·57
	Kalghatgi	−0·09	0	−0·24	+0·78	+1·73	− 0·16	− 1·12	+ 1·46	+ 2·68	−1·17	−0·90	+0·04	+ 3·01
	Bijapur	−0·02	+0·14	−0·12	+1·12	−0·19	+ 3·65	− 1·51	− 2·93	− 1·26	−2·22	−0·42	−0·63	− 4·39
	Honavar	−0·18	0	−0·11	+0·04	−2·09	− 3·30	− 6·16	− 4·43	−12·41	−5·24	+1·33	−0·13	−32·68
	Karwar	−0·13	0	−0·04	+0·73	−2·00	+36·33	− 6·89	+ 2·92	− 9·82	−3·69	−1·44	−0·12	+15·85
	Goa	−0·18	0	−0·02	+4·99	+0·35	+27·96	−10·05	− 7·65	− 5·30	−4·17	−0·87	−0·06	+ 5·00
	Vengurla	−0·21	0	−0·06	+0·73	−0·67	+16·38	− 6·08	− 4·52	− 6·24	−4·37	−0·94	−0·17	− 6·15
	Ratnagiri	−0·68	+0·01	+0·04	+0·78	+0·47	− 2·53	− 6·87	− 3·78	−10·16	−3·11	+0·42	−0·07	−25·48
	Colaba (Obsy.)	+0·61	−0·02	−0·01	+0·01	−0·58	+ 4·12	+ 8·41	− 0·75	− 8·95	−1·42	−0·50	−0·05	+ 0·87

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
BOMBAY—*concld.*	Byculla (J. J. Hospital).	+0·38	−0·01	−0·01	+0·20	−0·43	+4·07	+ 5·79	+ 0·45	— 9·79	−2·22	−0·21	−0·04	— 1·22
	Thana . .	+0·34	−0·05	−0·06	+0·01	−0·03	−0·86	+ 6·40	+ 5·75	— 8·13	−2·46	−0·25	−0·05	+ 0·61
	Matheran .	+0·47	−0·01	−0·01	+0·59	+0·07	−8·48	+ 5·56	+22·81	−21·31	−2·24	−1·00	−0·05	— 3·60
	Surat . .	+0·34	−0·02	+0·01	+1·25	−0·08	−9·47	— 3·99	— 5·34	— 6·34	−1·29	−0·17	−0·03	−25·13
	Broach . .	−0·02	−0·02	+0·02	−0·01	−0·13	−7·76	+ 0·85	— 3·91	— 6·37	−1·25	−0·18	−0·04	−18·82
	Kaira . .	−0·03	−0·15	+0·01	−0·04	−0·33	−4·53	— 6·63	+ 0·03	— 4·84	−0·32	−0·35	−0·05	−17·23
	Bariya . .	−0·05	−0·23	+0·12	0	−0·26	−5·64	−10·43	+ 0·48	— 8·71	−0·64	−0·19	−0·11	−25·66
	Godhra . .	+0·05	−0·13	+0·04	−0·01	−0·42	−2·08	— 7·56	+ 0·10	— 6·44	−0·98	−0·16	−0·09	−17·68
	Dohad . .	+0·09	−0·17	+0·01	−0·03	−0·50	−1·15	— 5·28	+ 0·83	— 6·78	−1·02	−0·19	−0·14	−14·33
	Ahmedabad .	0	−0·08	−0·01	−0·02	−0·01	−2·71	— 2·98	— 0·45	— 4·12	−0·54	−0·21	−0·03	−11·16
	Idar . .	−0·05	−0·14	−0·03	−0·02	+0·44	−1·62	— 4·76	— 5·80	— 5·96	+0·21	−0·25	−0·07	−18·05
	Deesa . .	−0·05	−0·15	−0·06	−0·04	+0·52	−2·40	— 7·49	— 3·44	— 3·55	−0·31	−0·15	+0·03	−17·09
	Wadhwan .	−0·05	−0·06	−0·04	−0·01	−0·09	−2·90	— 4·00	— 0·51	— 3·17	−0·49	−0·53	−0·03	−11·88
	Palanpur .	+0·10	−0·20	−0·06	−0·01	−0·19	+1·23	— 8·85	— 6·65	— 5·01	−0·41	−0·11	−0·04	−20·20
	Rajkot . .	−0·05	−0·10	−0·01	−0·01	+0·02	−3·83	— 6·53	— 1·54	— 1·42	−0·61	−0·37	−0·05	−14·50
	Songad . .	−0·04	−0·08	−0·06	−0·04	−0·22	−3·60	— 4·17	+ 0·94	— 2·63	−1·15	−0·25	−0·03	−11·33
	Jetalsar . .	+0·05	−0·12	0	0	+0·02	−7·51	— 9·80	— 1·74	— 2·13	−0·84	−0·94	−0·01	−23·02
	Aurangabad (Cantt.).	+0·99	−0·11	+1·03	−0·11	−0·64	+0·86	— 3·41	+ 4·70	— 4·21	+1·62	−1·15	−0·70	— 1·13
	Hingoli . .	+1·83	−0·20	+0·20	+1·83	−0·02	−1·52	+ 1·05	+ 5·08	— 4·45	−0·02	+1·55	−0·43	+ 4·90
	Parbhani . .	+0·04	−0·06	−0·26	+0·13	+0·13	+0·29	+ 1·38	+ 0·33	— 3·98	−0·17	−0·74	−0·27	— 3·18
	Nandair (Nanded)	+0·19	+0·09	+1·84	+1·17	+0·17	−2·51	+ 1·16	+ 1·85	— 6·16	+0·46	−0·81	−0·63	— 3·18
	Bheer (Bid.) .	+0·84	−0·02	+0·56	+0·79	−0·10	+3·29	+ 0·13	+ 4·05	— 6·02	−0·31	−1·15	−0·65	± 1·41
	Mominabad .	+1·27	+0·21	−0·12	+0·84	−0·10	+5·95	— 2·50	— 3·49	— 6·57	−1·42	−1·42	−0·97	— 8·32
	Indur (Indur) .	+0·01	+3·75	−0·42	+3·90	+0·15	+0·73	+ 1·62	— 0·94	— 1·99	+0·45	−1·08	−0·30	+ 5·79
	(Yelgandal) Karimnagar.	+0·04	+5·33	−0·31	+0·47	+0·75	+0·05	— 3·05	— 2·94	— 6·41	+1·89	−1·10	−0·33	— 5·61
	(Medak) Kandi .	−0·06	+1·76	+1·54	+1·59	−0·06	+0·40	+ 2·49	— 1·91	— 2·59	+0·42	−1·14	−0·20	+ 2·24
HYDERABAD.	(Ibrahimpatan) Shumsabad.	+0·22	+4·01	−0·58	+3·30	+0·36	+0·33	— 0·70	— 1·74	— 3·33	−1·06	−1·29	−0·18	— 0·66
	Sundanully (Ibrahimpatan).	+0·19	+3·11	−0·72	+1·76	+0·26	−1·04	+ 0·65	— 4·58	— 5·50	−1·93	−1·44	−0·08	— 9·32
	(Naldurg) Dharasev.	+0·54	−0·03	+0·07	+3·31	+0·82	+3·74	+ 2·14	— 1·23	— 7·00	−2·48	−0·91	−0·41	— 1·44
	Bidar (Bidar) .	+0·07	+0·19	−0·45	+2·06	−0·51	−3·77	— 0·66	— 4·80	— 3·59	−2·68	−1·38	−0·62	−16·14
	Gulbarga (Gulbarga).	−0·05	+0·28	−0·20	+0·26	−0·08	+0·71	— 0·21	— 3·09	— 3·23	−2·36	−0·68	−0·28	— 9·63
	Bolaram . .	+0·48	+1·83	−0·28	+2·21	−0·60	−1·66	+ 0·87	— 1·17	— 3·71	−0·79	−0·31	−0·35	— 3·28
	Secunderabad .	−0·12	+2·15	−0·44	+1·97	+0·22	+3·15	+ 0·58	— 1·21	— 3·53	−0·14	−0·42	−0·23	+ 1·98
	Hyderabad (Residency).	0	+2·34	−0·35	+2·67	+1·10	−0·52	+ 2·05	— 3·44	— 6·00	+1·20	−0·09	−0·45	— 1·49
	Zanawada (Hyderabad).	−0·08	+0·41	−0·86	+2·75	+0·05	−0·06	+ 0·56	— 5·49	— 6·11	−1·28	−0·82	−0·01	−10·91
	(Nalgunda) Bhongir.	+0·56	+3·51	−0·41	+0·74	−0·43	+0·34	— 0·08	— 1·02	— 4·10	−1·87	−1·21	−0·13	— 4·10

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCES.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
	Khamam (Hanumkonda) (Warangal).	+0·33	+1·06	−0·79	+0·95	+0·31	+ 1·08	−0·63	−3·73	−7·37	+1·27	− 0·48	0	− 8·00
	Sirpur Tandur .	+0·06	+1·70	+0·08	+0·87	−0·26	− 2·54	−0·54	+1·81	−0·78	−1·50	− 1·19	−0·76	− 2·55
HYDERABAD—*concld.*	Palmoor (Mahbubnagar).	+0·17	+4·23	−0·89	+1·87	+0·43	− 1·56	+1·69	−4·93	−5·10	−2·42	− 0·78	0	− 7·29
	Raichur . .	−0·03	+2·74	−0·36	+3·98	+0·82	+ 1·49	+5·24	−2·61	−2·28	−2·09	+ 0·33	−0·12	+ 7·11
	Raichur (Cantt.)	+0·04	+2·83	−0·45	+1·59	+0·11	+ 1·99	+8·13	−4·26	−3·64	−0·98	+ 0·73	−0·17	+ 5·92
	Rambha . .	+2·45	+0·89	−0·42	−0·61	−0·82	− 4·18	−0·02	−3·29	+3·34	−4·99	+10·22	−0·89	+ 1·68
	Gopalpur . .	+0·93	+1·38	−0·55	−0·56	−1·66	− 4·79	−3·08	−6·41	+5·14	−4·13	+ 9·91	−0·86	− 4·68
	Aska . .	+1·56	+1·03	−1·32	−0·85	−1·37	− 3·61	−0·86	−1·44	−2·76	+1·96	+ 3·88	−0·52	− 4·30
	Vizianagram .	+0·12	+1·85	−0·91	−0·40	+0·54	− 2·09	−2·98	−4·56	−1·45	+4·66	+ 9·25	−1·16	+ 2·87
	Bimlipatam .	+1·89	+2·76	−0·18	−0·23	+0·37	− 2·50	+0·21	−3·12	+2·64	−1·74	+10·17	−1·00	+ 9·27
	Rayaghadda .	−0·14	+1·12	−0·74	−0·19	−0·12	− 2·47	−3·21	−2·29	−1·94	−1·37	+ 4·59	−0·38	− 7·14
	Nourangapur .	+1·35	+1·44	−0·46	−0·49	−0·61	− 6·28	−7·26	−0·60	−6·71	−0·21	− 0·58	−0·08	−20·49
	Gunipore . .	+0·05	+0·95	−1·25	−0·63	−0·33	− 3·72	−0·27	−1·47	−4·71	− 3·63	+ 1·31	−0·33	−14·03
	Jeypore . .	+0·17	+0·89	−0·42	+2·61	−0·49	−10·55	−7·80	−2·75	−9·50	−3·68	− 0·42	−0·05	−31·99
	Koraput . .	+0·40	+0·50	+0·35	+2·24	−0·62	− 8·79	−3·37	+1·35	−3·55	−1·67	+ 3·63	−0·19	− 9·72
	Malkanagiri .	−0·07	+0·11	−0·32	−0·78	+1·85	− 5·13	−7·36	+1·14	−8·74	−2·83	− 0·52	−0·05	−22·70
	Narsapatnam .	+0·04	+1·22	−0·36	−1·25	+2·16	+ 1·23	−2·67	−2·14	−2·44	+1·10	+ 4·21	−0·80	+ 0·30
	Waltair . .	+2·61	+4·60	−0·34	−0·20	+0·13	− 1·17	−2·20	−3·23	+1·54	−3·24	+ 6·18	−1·50	+ 3·18
	Cocanada . .	+0·93	+1·70	−0·26	−0·46	+0·18	− 2·68	−2·01	+3·20	+0·82	−0·85	+ 5·88	−0·79	+ 6·58
	Rajahmundry .	+0·52	+0·83	−0·29	+1·68	+0·23	− 0·90	−3·37	+3·01	−4·70	+0·26	+ 0·87	−0·17	− 2·03
MADRAS	Ellore . .	−0·17	+0·64	−0·38	−0·52	+0·45	+ 1·24	−1·19	−1·71	−5·29	+0·57	+ 0·03	−0·32	− 6·65
	Masulipatam .	−0·03	+8·77	−0·27	−0·04	−1·18	− 1·61	−0·38	+1·65	−5·01	−1·80	− 1·03	−0·48	− 1·41
	Guntur . .	+0·34	+5·20	−0·49	+0·25	−1·00	− 0·44	+0·95	−3·06	−3·68	−2·63	− 1·13	−0·35	− 5·94
	Vinukonda .	+0·40	+2·11	−0·51	−0·41	−1·12	− 2·18	−0·37	−0·87	−0·32	−5·19	+ 0·41	−0·43	− 8·48
	Ongole . .	+0·12	+4·32	−0·24	−0·25	−1·03	+ 0·05	+1·91	−1·90	−2·26	−6·82	+ 0·91	+0·11	− 5·08
	Nellore . .	−0·42	+1·11	−0·20	−0·11	−0·95	− 0·83	−0·40	−0·10	−0·08	−4·81	+ 4·50	+1·05	− 1·24
	Udayagiri .	+1·98	+4·24	−0·49	−0·41	+2·27	− 1·15	+0·57	−0·09	+1·19	−6·48	+ 8·13	+0·60	+10·36
	Tada . .	−0·57	+1·95	−0·14	−0·14	−1·75	− 1·32	+0·49	+1·91	+1·25	−3·90	+ 2·39	+8·08	+ 8·25
	Kurnool . .	+0·83	+3·28	−0·45	−0·60	−0·53	+ 0·70	+0·71	−3·31	−1·28	−2·71	+ 2·29	−0·13	− 1·20
	Nandyal . .	+0·35	+0·49	−0·17	−0·36	+0·41	− 0·29	−0·59	−3·13	−5·73	−3·72	− 0·53	−0·16	−13·43
	Bellary . .	−0·11	+1·77	−0·46	+0·01	+0·81	+ 2·14	−0·77	−1·35	−0·14	−0·86	− 1·96	−0·22	+ 2·78
	Gooty . .	−0·04	+0·24	−0·08	−0·44	−0·25	− 1·19	−1·33	−3·46	−0·60	−2·95	− 0·69	−0·12	−10·91
	Adoni . .	+1·36	+3·12	−0·29	−0·41	+1·03	+ 0·59	−0·23	−2·05	+0·58	−2·06	+ 0·63	−0·17	+ 2·10
	Dharmavaram	−0·01	+1·38	−0·18	−0·47	+3·53	− 1·95	−0·53	−3·10	+1·46	−1·79	+ 0·24	+0·08	− 1·34
	Cuddapah .	−0·15	+2·37	−0·19	−0·28	−0·39	− 0·79	+0·42	−2·49	−2·34	−3·32	+ 2·99	+0·55	− 3·62
	Madanapalle .	−0·13	+1·34	−0·35	−0·55	−1·47	+ 0·71	−1·43	−2·04	−0·38	−3·45	+ 0·34	+1·19	− 6·22

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
MADRAS—*contd.*	Chittoor	—0·29	+1·05	—0·34	—0·21	—1·23	—1·74	—0·76	—3·48	— 1·21	—3·84	+2·42	+ 5·26	— 4·37
	Vellore	0	+1·23	—0·18	+0·10	+0·04	—0·36	— 1·09	—2·98	+ 1·31	+0·26	+1·36	+ 8·13	+ 7·82
	Chandragiri	—0·20	+1·30	—0·24	+0·15	—1·12	—1·32	— 0·83	—0·50	— 0·84	—4·29	+0·04	+ 2·88	— 4·97
	Arcot	+0·08	+1·57	—0·33	—0·51	+0·07	—0·29	— 1·31	—4·72	— 0·15	—2·92	+2·89	+11·72	+ 6·10
	Madras	—0·14	+2·03	—0·36	—0·61	—1·97	—1·69	+ 2·80	+2·63	— 0·74	—1·97	+1·37	+ 9·35	+10·70
	Palmaner	+1·00	+1·31	—0·40	—0·43	—1·49	—0·51	— 2·01	—3·58	+ 1·78	—1·28	+0·05	+ 2·56	— 3·00
	Saidapet	—0·34	+3·69	—0·32	—0·23	—0·66	—2·03	+ 2·26	+6·26	— 0·81	—2·56	+1·99	+ 7·83	+15·08
	Chingleput	+2·23	+3·52	—0·13	—0·20	—1·16	—2·74	+ 1·26	+1·45	+ 2·50	—4·04	+3·19	+ 9·28	+15·16
	Conjeeveram	—0·05	+4·60	—0·12	—0·56	+3·34	+0·78	— 0·70	+2·23	— 0·45	—2·19	+5·01	+ 9·30	+21·19
	Tindivanam	+1·35	+1·03	—0·27	—0·60	+0·13	—0·19	+ 2·25	—1·95	+ 0·27	—4·93	+5·07	+ 0·52	+ 2·68
	Cuddalore	+1·64	+7·91	—0·21	—0·79	—1·46	—0·39	— 1·61	—1·24	+ 1·58	—6·04	+4·57	— 2·27	+ 1·69
	Vriddhachalam	0	+4·27	—0·07	—0·34	+1·20	+2·93	— 1·35	+0·78	+ 1·50	+5·17	—1·13	— 1·94	+11·02
	Udayarpalaiyam	+0·37	+0·72	+0·13	—0·85	—0·49	—0·90	+ 0·35	—0·11	+ 6·72	—5·95	+3·07	— 3·01	+ 0·05
	Salem	—0·26	+0·22	—0·87	—0·08	+0·13	—0·90	— 0·87	+3·69	+ 1·21	—2·65	+3·24	— 0·20	+ 2·66
	Atur	+1·33	+0·89	—0·77	—1·09	—0·59	—1·17	— 0·93	+1·94	+ 5·09	—1·92	+1·48	— 0·49	+ 3·77
	Shevaroy Hills	+0·89	+0·76	—0·52	—0·98	+0·32	—1·75	+ 1·20	—1·49	+ 3·91	—5·52	+3·78	— 0·08	+ 0·52
	Kumbakonam	+0·06	+1·79	—0·01	—0·22	+1·62	—1·42	— 1·52	—0·97	+11·83	—7·54	+1·43	— 1·05	+ 4·00
	Tirupatur	0	—0·33	+0·04	+1·75	—3·47	+0·43	+ 0·15	—2·54	+ 1·75	—0·32	—0·36	+ 0·51	— 2·39
	Hosur	—0·14	+0·71	—0·47	—0·75	+4·70	—0·51	— 0·58	—4·18	+ 3·11	+1·73	+0·57	+ 1·14	+ 5·33
	Tranqueber	—0·74	+0·56	+0·05	—0·64	—0·32	—1·29	— 1·46	—2·37	+ 1·96	—8·10	+3·31	— 5·16	—14·20
	Negapatam	+0·01	+1·34	—0·05	—0·31	+1·33	—1·31	— 1·41	—1·79	+ 0·04	—5·50	+2·67	— 3·76	— 8·74
	Tanjore	—0·56	+0·19	+1·30	+0·17	—0·34	+0·55	— 1·57	—0·91	+ 6·30	—4·37	—0·23	0	+ 0·53
	Patukota	—0·14	+0·53	0	+1·76	—1·85	—1·07	— 1·27	—3·55	+ 3·11	—2·07	—1·22	+ 0·33	— 5·44
	Trichinopoly	—0·82	—0·33	—0·47	—1·41	—0·75	+0·49	— 1·75	—2·76	+ 5·03	—2·37	+0·45	+ 0·85	— 3·84
	Karur	—0·22	—0·10	—0·33	—1·00	+0·66	—1·54	— 1·15	—0·39	+ 5·29	—0·69	+3·92	— 0·37	+ 4·08
	Coimbatore	+0·21	+0·38	—0·24	+1·26	—1·12	—0·12	— 0·31	—0·77	+ 4·30	—3·28	+3·69	+ 0·51	+ 4·51
	Kollegal	+0·21	+1·78	—0·93	+0·19	—0·88	—1·27	+ 0·02	—3·66	+ 7·21	+1·48	+1·43	+ 0·57	+ 6·15
	Dindigul	—0·16	—0·01	+0·48	+0·33	+1·26	—1·55	— 0·27	—1·11	+ 5·32	—0·14	+5·89	— 1·16	+ 8·88
	Madura (Obsy.)	+0·14	+0·36	+0·55	+1·15	+3·41	—1·01	— 0·91	—2·27	+ 6·13	—5·68	+2·69	— 1·56	+ 3·00
	Vattanum	—0·27	+3·55	+0·33	+1·13	—0·08	+0·41	+ 0·27	—1·77	+ 3·01	—5·92	—2·50	— 3·57	— 5·41
	Periyakulam	+5·35	+1·32	+0·23	+0·96	—1·00	+0·34	— 0·43	—0·50	+ 2·39	—2·69	+3·28	— 0·18	+ 9·07
	Tinnevelly	+1·88	—0·42	+3·62	+0·34	—1·25	+0·86	— 0·29	—0·16	+ 0·76	—6·03	—0·21	— 2·91	— 3·81
	Tuticorin	+1·63	—0·23	+1·37	—1·04	—0·26	+0·41	— 0·18	—0·33	+ 0·08	—2·28	+2·35	— 1·87	— 0·15
	Satur	+3·10	—0·49	+2·66	+1·81	+1·22	—0·46	— 1·11	—0·67	+ 2·56	—2·36	+2·95	— 1·99	+ 7·32
	Cochin	—0·06	—0·06	+1·68	—0·35	—3·44	+1·18	— 4·55	—3·04	— 1·41	—7·09	+7·90	— 0·89	—10·13
	Palghat	+0·91	+0·47	—0·11	—0·62	—2·53	—4·63	+10·23	+3·37	— 0·61	+0·38	+4·20	+ 0·28	+10·78
	Wellington	+6·04	+2·69	+0·21	+0·46	+2·65	+0·31	+ 0·36	—0·81	+ 6·84	—4·48	—0·54	— 1·98	+11·75

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Madras—*concld.*	Manantoddy	+0·33	+1·25	+0·37	+1·61	−0·26	+0·35	+15·28	− 0·33	+ 1·11	+ 5·28	+ 7·31	+0·81	+34·11
	Calicut	+1·10	+0·95	+1·17	+1·79	−4·37	−3·39	+ 2·01	− 0·93	+ 0·69	− 2·14	+ 5·81	+1·69	+ 4·38
	Tellicherry	−0·29	−0·10	+1·35	+0·25	−4·75	+1·10	−10·11	− 0·25	+ 0·02	− 0·41	+ 5·86	+1·90	− 5·43
	Cannanore	−0·36	−0·22	+0·90	+4·23	−2·98	+3·04	− 0·91	− 0·15	+ 1·50	+ 4·87	+10·52	+1·80	+22·24
	Mangalore	−0·05	+0·08	+0·05	+1·67	−4·07	+1·18	− 7·82	− 4·86	− 6·75	− 4·18	+ 7·77	+0·82	−16·26
Mysore and Coorg.	Bangalore	−0·19	+2·98	−0·56	−0·37	+1·03	−1·41	− 1·20	− 2·98	+ 6·40	− 1·56	− 0·68	+0·28	+ 1·74
	Mysore	+0·07	+0·70	−0·68	−1·56	−1·94	−0·68	− 1·49	− 0·90	+ 4·54	+ 5·72	− 0·74	−0·09	+ 2·95
	Shimoga	−0·05	+0·31	−0·15	−0·41	−0·73	−1·33	+ 2·92	+ 2·11	+ 2·35	+ 1·25	− 0·14	−0·19	+ 5·94
	Mercara	−0·21	+1·34	−0·73	−0·93	−3·49	−2·19	+11·63	− 3·46	− 5·65	+ 3·48	+ 2·08	+0·15	+ 2·02
	Kolar	−0·18	+2·12	−0·57	−0·79	+2·15	−1·79	− 2·90	− 3·56	+ 1·03	− 3·03	− 0·22	+1·27	− 6·47
	Tumkur	−0·16	+2·20	−0·36	−0·67	−0·26	−2·02	− 0·71	− 3·60	+ 4·50	+ 2·09	+ 0·99	+0·51	+ 2·51
	Chitaldroog	+0·08	+0·25	−0·29	−1·10	+0·64	−0·82	− 0·79	− 0·33	+ 0·92	− 0·77	− 1·46	−0·14	− 3·81
	Chikmagalur	+0·04	+2·32	−0·46	−1·04	−2·38	+1·06	− 0·86	− 2·30	+ 0·04	+ 0·32	+ 2·35	+1·40	+ 0·48
	Hassan	−0·42	+1·29	−0·35	−1·01	−0·83	−2·73	+ 0·46	− 1·24	+ 0·29	+ 0·67	+ 5·16	+0·07	+ 1·36
Ceylon.	Trincomalee	−3·80	+0·25	+6·34	+0·45	−0·30	−0·42	− 1·57	− 2·76	+ 6·82	− 5·25	+ 0·28	−5·92	− 5·88
	Colombo	+8·69	+1·62	+0·34	−2·60	−5·81	−2·44	+ 0·14	− 3·21	− 1·08	−10·61	+ 7·18	−2·99	− 1·77
	Ratnapura	+5·56	+2·90	−3·61	+3·61	−6·16	+3·63	+ 2·93	− 5·52	+ 0·11	− 8·35	+ 3·97	+2·29	+ 1·36
	Puttalam	+4·21	+1·51	−1·07	+3·80	−0·59	−0·40	+ 0·43	− 0·86	+ 0·87	− 3·95	+ 2·80	−4·09	+ 2·66
	Anuradhapur	−2·15	+2·38	−0·19	−2·16	−1·82	−1·37	− 1·05	− 1·90	+ 2·43	− 1·56	+ 0·46	−2·13	− 9·06
	Mannar	−0·15	+2·07	+0·49	+1·76	−0·72	−0·58	− 0·23	− 0·50	− 0·83	− 6·04	− 0·52	−4·06	− 9·31
	Jaffna	+2·75	−0·70	+0·02	−0·92	+0·95	−0·74	+ 0·76	− 1·55	+ 0·07	− 0·33	− 1·14	−2·34	− 3·77
	Batticoloa	−1·51	+0·33	+6·93	+0·62	+1·38	−0·99	− 0·28	− 2·41	+ 3·18	− 1·92	− 4·23	−0·30	+ 0·80
	Hambantota	+6·23	−0·70	−1·51	+1·40	−2·91	−1·85	− 0·02	− 1·32	− 1·82	− 1·51	− 3·11	−2·99	−10·11
	Galle	+8·33	+9·13	+2·55	+1·82	+3·18	+2·10	+ 1·55	− 2·21	− 2·92	− 7·17	+ 1·99	−3·54	+14·81
	Kandy	+0·62	−0·72	−2·10	+5·00	−3·28	+5·10	+ 0·20	− 1·27	− 2·31	− 4·56	+ 3·58	−4·65	− 4·39
	Nuwara Eliya	−1·65	+0·19	−0·60	+3·01	−4·77	+8·13	− 3·92	− 3·55	− 2·17	− 3·88	+ 4·83	−5·49	− 9·87
	Hakgala	−4·92	−0·16	+1·46	−3·39	−2·79	+7·71	− 2·59	− 3·00	− 0·76	+ 1·65	+ 3·68	−6·07	− 9·18
	Badulla	−4·81	−0·85	−1·85	−0·65	−3·20	−0·80	− 0·57	− 2·34	+ 3·42	− 6·34	− 1·03	−7·37	−26·39
Burma.	Akyab	+0·23	+0·19	−0·46	−1·60	+0·19	−2·78	+ 5·23	+ 3·64	+ 1·44	+ 4·39	+ 0·70	−0·05	+11·12
	Kyaukpyu	−0·07	+0·51	−0·25	−1·00	−0·52	−3·51	− 6·85	− 7·88	+ 4·89	+ 4·83	+ 2·08	−0·54	− 8·31
	Sandoway	−0·03	+2·67	−0·11	−1·17	−2·03	+9·92	−12·73	+28·76	−14·19	+ 0·93	+ 0·11	−0·31	+11·82
	Rangoon	−0·12	+1·72	−0·06	−1·30	+4·18	−1·58	+ 4·94	− 5·84	− 2·55	+ 3·61	− 2·76	−0·07	+ 0·17
	Bassein	−0·18	+4·94	−0·05	−1·49	−0·28	−2·76	− 6·63	+ 1·40	− 6·99	+ 5·37	− 1·98	+0·10	− 8·55
	Diamond Island	−0·22	+4·26	−0·01	−1·61	−0·12	−6·86	+ 3·87	+ 5·92	− 7·30	+ 3·99	− 2·32	−0·82	− 1·22
	Henzada	−0·07	+1·32	−0·04	−0·88	−2·23	+2·13	+ 0·80	+ 3·55	− 0·15	+ 4·90	+ 0·62	−0·03	+ 9·92

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BURMA—*concld.*	Myanaung	−0·06	+1·52	−0·01	−1·02	−0·80	− 0·16	− 0·50	+ 2·32	− 0·60	+3·21	− 0·61	−0·42	+ 3·26
	Prome	+0·03	+2·78	−0·02	−0·81	−1·39	+ 1·19	− 2·36	+ 0·97	— 3·51	+4·77	− 0·27	−0·08	+ 1·30
	Thayetmyo	0	+2·34	−0·07	−0·79	+5·65	− 0·64	− 2·19	— 4·26	− 2·68	+1·32	− 1·80	−0·10	− 3·22
	Mandalay	−0·01	+0·39	−0·14	−0·69	+1·11	+ 3·21	− 1·21	− 2·44	− 1·57	−0·03	− 1·02	−0·28	− 2·68
	Shwebo	−0·09	+0·09	−0·28	−0·51	−0·23	− 0·06	− 2·43	− 2·64	− 2·72	−0·01	− 0·07	−0·19	− 9·14
	Ye-u	−0·10	+0·12	−0·48	−0·89	+0·47	— 3·46	− 3·04	— 2·56	− 3·61	−1·00	+ 0·05	−0·28	− 14·78
	Minbu	−0·05	+0·74	0	−0·69	+3·59	− 2·07	+ 3·14	— 0·22	+ 0·63	+2·58	− 0·99	+0·02	+ 6·68
	Pyinmana	−0·06	+1·81	−0·02	−0·94	+3·05	+ 3·57	− 2·94	− 1·27	+ 3·28	+2·59	+ 0·92	−0·11	+ 9·88
	Pagan	−0·04	+0·40	−0·16	−0·52	+0·33	− 1·62	+ 0·53	+ 1·90	− 2·88	+0·64	− 0·41	−0·13	− 1·96
	Kyauksai	−0·21	+1·47	−0·02	−0·86	+0·80	+ 0·82	− 0·87	+ 1·12	− 2·65	+2·99	− 0·60	−0·31	+ 1·68
	Bhamo	−0·74	+0·29	−0·69	−0·40	+1·66	− 4·28	− 6·23	− 6·04	+ 0·03	+0·66	+ 0·91	−0·36	−15·19
	Kindat	+0·06	−0·17	−1·08	+1·55	+8·60	− 2·68	− 3·25	+ 2·74	+ 6·09	+1·25	− 0·83	−0·49	+11·79
	Magwe	0	+0·67	0	−1·07	+3·95	− 0·23	+ 0·52	− 0·38	+ 3·63	+4·02	− 0·83	−0·20	+10·08
	Yemethin	−0·02	+1·22	−0·11	−1·50	+4·61	+ 1·89	− 0·19	− 1·22	+ 2·98	+4·02	− 0·54	−0·33	+16·81
	Fort Sagaing	+0·04	+0·29	−0·18	−0·90	−0·77	+ 0·92	− 4·08	− 2·41	+ 0·43	−0·22	− 1·49	−0·22	− 8·59
	Mingin	−0·14	+0·22	−0·55	−1·[illegible]	+7·24	+ 3·41	− 3·59	− 2·78	− 3·80	+4·18	− 0·47	−0·23	+ 2·26
	Toungoo	−0·07	+2·64	−0·04	−1·94	+5·50	− 0·47	− 1·14	− 1·32	− 2·06	+1·58	+ 0·84	−0·16	+ 3·36
	Shwegyin	−0·12	+2·57	−0·06	−2·51	−1·50	−11·13	− 7·32	+11·49	+ 4·23	+0·80	− 0·38	−0·08	− 4·01
	Moulmein	−0·18	+0·14	−0·19	−1·86	−5·20	− 4·52	− 6·87	+20·51	−10·86	+2·61	+ 0·20	−0·02	− 6·24
	Tavoy	−0·16	+1·07	+3·24	−2·97	−6·41	+ 0·94	+ 5·19	+ 3·21	−19·60	+7·78	− 1·49	−0·11	−9·31
	Mergui	+1·88	+1·17	+0·62	−2·48	+1·31	+ 4·79	+10·96	+20·28	−17·23	+8·00	− 1·91	−0·46	+26·93
	Myingyan	−0·06	+0·42	+0·03	−0·35	−0·46	+ 3·18	− 1·18	− 1·40	− 0·14	−0·37	+ 0·33	−0·16	− 0·16
	Monywa	0	+0·39	−0·37	−1·18	−0·98	− 2·32	− 1·62	+ 1·61	− 1·84	−1·16	− 0·51	−0·22	− 8·20
BAY ISLANDS.	Port Blair	+1·11	+2·35	+0·78	−2·77	+4·57	+ 1·80	− 0·80	+ 3·84	− 6·03	+3·34	+13·33	−4·24	+17·28
	Cocos Island	−0·33	+1·34	+0·19	−1·02	−0·57	+16·83	+ 4·80	+ 3·56	− 9·94	+4·63	− 2·15	−0·94	+16·40
KASHMIR.	Leh	+0·64	−0·14	−0·19	0	+0·06	− 0·11	+ 0·60	− 0·32	− 0·19	−0·23	− 0·10	−0·08	− 0·06
	Srinagar	−0·08	+0·11	+0·26	+3·21	+1·34	− 2·50	— 5·41	− 5·99	− 1·04	+0·16	− 0·25	−0·71	−10·90
	Skardu	−1·59	+1·19	−1·23	−3·38	−0·16	+ 0·92	+ 0·20	— 1·09	+ 0·09	+0·05	− 0·13	−0·63	− 8·14
	Gilgit	+0·11	−0·03	−0·14	+0·90	+0·46	+ 0·65	− 0·94	+ 0·17	+ 0·03	+1·36	− 0·07	−0·01	+ 2·49
NEPAL	Katmandu	+1·52	−0·56	+0·46	−1·29	−0·68	− 3·98	− 0·09	− 2·15	− 0·28	−2·28	− 0·12	−0·25	− 9·70
EXTRA INDIA.	Meshed	−0·22	−0·90	−1·89	−1·03	+1·08	+ 1·84	− 0·03	− 0·02	0	+0·10	+ 0·56	−0·42	− 0·93
	Teheran	−0·75	−1·02	−2·71	+0·18	+0·05	+ 1·84	− 0·44	+ 0·05	+ 0·17	+0·24	+ 0·74	−0·96	− 2·61
	Ispahan	−0·11	−0·04	+0·15	−0·68	+0·65	+ 0·01	− 0·10	0	+ 0·17	−0·05	− 0·85	−0·01	− 0·86
	Bushire	−2·01	−1·23	−0·34	−0·07	−0·03	0	0	0	0	−0·20	− 2·60	−1·75	− 8·23
	Jask	−0·40	−1·09	−1·21	−0·04	0	− 0·13	− 0·02	0	0	−0·04	− 0·44	−0·78	− 4·15
	Muscat	−2·36	−0·66	+0·01	−0·05	0	0	− 0·08	0	0	−0·04	− 0·94	+0·26	− 3·86

TABLE XXV.—*Comparison of the monthly and total rainfall (in inches) in 1901, with the averages of past years*—concld.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Extra India—*concld.*	Baghdad . .	− 1·06	−2·49	−1·65	−0·97	−0·09	−0·01	0	−0·13	+0·02	−0·04	−0·98	−1·44	− 8·84
	Aden . .	0	−0·28	−1·13	−0·53	−0·21	+1·33	b	−0·20	−0·21	−0·02	−0·21	−0·02	− 1·48
	Perim . .	− 0·48	+0·35	+0·11	+0·28	−0·15	+0·59	−0·02	0	0	−0·09	−0·06	+1·23	+ 1·76
	Kabul . .	?	−0·72	−3·71	+1·17	+2·01	−0·30	−0·39	−0·17	0	0	−0·91	−0·18	?
	Kashgar . .	− 0·31	−0·01	−0·25	?	+1·64	−0·07	−0·45	+0·15	−0·13	−0·07	−0·04	−0·19	?
	Zanzibar . .	− 0·74	+7·76	−0·48	+6·26	+8·63	+0·82	−0·49	−0·63	+1·30	−1·56	−1·36	−1·04	+18·47
	Port Victoria (Seychelles) .	− 6·43	+0·88	+1·31	+5·59	+0·35	−2·22	+1·68	−1·87	+7·92	+0·20	−0·10	−4·86	+ 2·45
	Mauritius .	+11·26	−2·99	+1·34	−1·86	−2·19	−0·04	−0·35	−0·03	−0·41	−0·78	+3·15	+1·35	+ 8·55

TABLE XXVI.—*Geographical summary of rainfall anomalies in 1901.*

Meteorological Division.	Area, square miles.	Number of stations.	Normal rainfall.	Actual rainfall.	Mean excess or defect.	Total excess square miles × 1 inch.	Total defect square miles × 1 inch.
			Inches.	Inches.	Inches.		
I. Punjab Plains	120,000	29	21·71	18·08	− 3·63		435,600
II. United Provinces of Agra and Oudh .	83,500	44	38·07	32·40	− 5·67		473,445
III*a*. Rajputana, East	67,000	29	27·02	14·78	−12·24		820,080
III*b*. „ West	58,000	10	12·51	5·76	− 6·75		391,500
IV. Central India States . . .	91,000	26	44·26	41·50	− 2·76		251,160
V. Bihar	30,000	15	44·75	38·77	− 5·98		179,400
VI. Western Bengal	38,000	14	52·75	47·82	− 4·93		187,340
VII. Lower „	54,000	28	65·53	65·82	+ 0·29	15,660	
VIII. Assam and Cachar	61,000	17	95·19	89·36	− 5·83		355,630
IX. Orissa and Northern Circars . .	27,000	32	52·75	46·23	− 6·52		176,040
X. Central Provinces, South . . .	61,000	19	53·46	53·38	− 0·08		4,880
XI. Berar and Khandesh . . .	43,000	13	36·41	34·47	− 1·94		83,420
XII. Gujarat	54,500	13	33·82	16·00	−17·82		971,190
XIII. Sind and Cutch	68,000	10	8·59	2·70	− 5·89		400,520
XIV. North Deccan	48,000	13	30·83	30·52	− 0·31		14,880
XV. Konkan and Ghats	16,900	11	139·95	139·09	− 0·86		13,760
XVI. Malabar and Ghats . . .	18,000	8	114·50	119·77	+ 5·27	94,860	
XVII. Hyderabad	74,000	17	34·58	32·17	− 2·41		178,340
XVIII. Mysore and Bellary . . .	58,000	18	29·28	28·41	− 0·87		50,460
XIX. Carnatic	72,000	36	36·94	39·13	+ 2·19	157,680	
XX. Arakan	11,000	6	152·36	150·62	− 1·74		19,140
XXI. Pegu	32,500	7	72·24	73·13	+ 0·89	28,925	
XXII. Tenasserim	10,500	4	173·30	175·15	+ 1·85	19,425	
XXIII. Upper Burma	?	13	39·02	38·30	− 0·72		

On the mean of the whole area represented in the above table there was a defect of 3·92 inches or, excluding the Burmese Peninsula, of 4·13 inches.

TABLE XXVII.—*Geographical summary of the distribution of rainfall in 1901 according to season.*

METEOROLOGICAL DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER		
	Normal average.	Actual average.	Difference.	Normal average.	Actual average	Difference.	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
North-West Himalayas	6·43	9·72	+3·29	7·21	6·77	—0·44	41·54	40·59	— 0·95	1·74	0·87	—0·87
Punjab Plains	2·24	3·09	+0·85	2·75	3·41	+0·66	16·22	11·49	— 4·73	0·75	0·09	—0·66
United Provinces of Agra and Oudh	1·18	3·73	+2·25	1·41	0·85	—0·56	35·69	29·00	— 6·69	0·45	0·23	—0·22
Rajputana	0·55	1·03	+0·48	0·76	0·28	—0·48	21·59	11·13	—10·46	0·39	0·03	—0·36
Central India States	0·97	2·38	+1·41	0·80	0·72	—0·08	41·76	38·39	— 3·37	0·73	0·02	—0·71
Bihar	1·19	3·37	+2·18	2·51	3·08	+0·57	40·34	31·89	— 8·45	0·34	0·28	—0·06
Western Bengal and Chota Nagpur.	1·38	6·24	+4·86	3·59	2·63	—0·96	47·13	39·30	— 7·83	0·65	0·37	—0·28
Lower Bengal	1·41	2·20	+0·79	10·64	8·88	—1·76	52·25	50·90	— 1·35	0·79	2·90	+2·11
Eastern Himalayas	1·65	1·90	+0·25	18·38	12·27	—6·11	104·53	85·82	—18·71	0·50	0·84	+0·34
Assam and Eastern Bengal	1·83	1·28	—0·55	22·77	12·98	—9·79	69·30	70·85	+ 1·55	1·27	4·23	+2·96
Orissa and Northern Circars	0·74	3·90	+3·16	4·75	4·72	—0·03	44·68	32·45	—12·23	2·42	5·26	+2·84
Central Provinces South	0·86	4·62	+3·76	1·84	2·63	+0·79	49·58	46·10	— 3·48	0·90	0·03	—0·87
Berar and Khandesh	0·53	1·84	+1·31	1·13	1·61	+0·48	33·56	30·82	— 2·74	1·19	0·20	—0·99
Gujarat	0·18	0·08	—0·10	0·37	0·34	—0·03	32·72	15·60	—17·12	0·35	0·01	—0·34
Sind and Cutch	0·53	0·26	—0·27	0·46	0·51	+0·05	8·22	2·09	— 6·13	0·22	0·04	—0·18
North Deccan	0·19	0·51	+0·32	3·36	6·44	+3·08	25·71	23·25	— 2·46	1·55	0·33	—1·22
Konkan and Ghâts	0·23	0·34	+0·11	1·71	2·17	+0·46	132·38	131·46	— 0·92	0·97	0·44	—0·53
Malabar and Ghâts	0·50	1·13	+0·63	11·39	9·68	—1·71	98·53	97·68	— 0·85	4·09	11·27	+7·18
Hyderabad	0·27	2·34	+2·07	1·95	3·73	+1·78	30·80	24·60	— 6·20	1·49	0·39	—1·10
Ceded Districts and Mysore	0·25	1·92	+1·67	4·82	4·11	—0·71	21·63	18·68	— 2·95	2·57	3·71	+1·14
Carnatic	0·89	3·04	+2·15	3·97	3·73	—0·24	21·05	17·89	— 3·16	10·97	14·34	+3·37
Nilgiris	2·05	10·78	+8·73	9·56	12·88	+3·32	26·85	29·07	+ 2·22	11·91	9·39	—2·52
Arakan	0·97	0·79	—0·18	16·37	8·91	—7·46	125·56	136·91	+11·35	2·95	4·01	+1·06
Pegu	0·22	2·83	+2·61	8·46	8·53	+0·07	66·57	65·73	— 0·84	2·89	1·70	—1·19
Tenasserim	1·02	2·62	+1·60	22·02	17·52	—4·50	147·95	153·77	+ 5·82	2·32	1·26	—1·06
Upper Burma	0·24	0·70	+0·46	6·12	7·37	+1·25	29·78	28·19	— 1·59	1·56	0·95	—0·61
Bay Islands	1·17	3·41	+2·24	15·03	15·63	+0·60	69·08	80·08	+11·00	11·73	14·73	+3·00

TABLE XXVIII.—*Average actual and normal rainfall data of the 57 meteorological divisions in India for the four seasons of the year 1901 and for the whole year.*

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Burma	1. Tenasserim	2·17			18·89			169·56			2·32			192·94		
	2. Lower Burma Deltaic	2·66			10·97			85·47			1·61			100·71		
	3. Central do.	1·85			5·38			48·08			1·23			56·54		
	4. Upper do.	0·63	0·24	+0·39	6·92	6·12	+ 0·80	54·18	29·78	+ 4·40	1·11	1·56	—0·45	42·84	37·70	+ 5·14
	5. Arakan ,,	1·01			10·38			157·96			4·07			173·42		
Bengal and Assam	6. Eastern Bengal	0·74	1·42	—0·68	11·01	17·35	— 6·34	78·02	68·86	+ 9·16	4·44	1·61	+2·83	94·21	89·24	+ 4·97
	7. Assam Surma	0·45	2·38	—1·93	24·28	38·62	—14·34	88·47	91·18	— 2·71	3·51	1·89	+1·62	116·71	134·07	—17·36
	8. Do. Hills	1·22	1·86	—0·64	18·61	27·44	— 8·83	92·10	104·39	—12·29	4·45	1·72	+2·73	116·38	135·41	—19·03
	9. Do. Brahmaputra	1·93	2·12	—0·19	14·53	23·47	— 8·94	61·29	63·24	— 1·95	4·41	1·05	+3·36	82·16	89·88	—7·72
	10. Deltaic Bengal	2·70	1·63	+1·07	9·38	10·18	— 0·80	47·38	47·67	— 0·29	3·81	1·08	+2·73	63·27	60·56	+ 2·71
	11. Central do.	2·09	1·28	+0·81	6·34	7·71	— 1·37	40·46	46·49	— 6·03	2·13	0·65	+1·48	51·02	56·13	— 5·11
	12. North do.	1·19	1·01	+0·18	9·46	15·83	— 6·37	67·94	79·88	—11·89	1·08	0·25	+0·83	79·67	96·92	—17·25
	13. Bengal Hills	1·92	1·62	+0·30	11·26	18·39	— 7·13	84·07	111·33	—27·26	1·28	0·54	+0·74	98·53	131·88	—33·35
	14. Orissa	4·34	1·16	+3·18	5·15	6·80	— 1·65	37·52	48·88	—11·36	5·49	2·24	+3·25	52·50	59·08	— 6·58
	15. Chota Nagpur	6·41	1·42	+4·99	2·52	4·07	— 1·55	41·13	47·40	— 6·27	0·39	0·70	—0·31	50·45	53·59	— 3·14
	16. South Bihar	3·56	1·30	+2·26	2·21	2·37	— 0·16	29·24	39·70	—10·46	0·29	0·37	—0·08	35·30	43·74	— 8·44
	17. North do.	2·21	1·21	+1·00	3·66	4·36	— 0·70	31·44	47·48	—16·04	0·26	0·22	+0·04	37·57	53·27	—15·70
United Provinces of Agra and Oudh.	18. United Provinces East.	4·19	0·99	+3·20	1·00	0·91	+ 0·09	31·01	35·98	— 4·97	0	0·37	—0·37	36·20	38·25	— 2·05
	19. South Oudh	3·34	0·95	+2·39	0·45	0·99	— 0·54	28·49	33·73	— 5·24	0·07	0·43	—0·36	32·35	36·10	— 3·75
	20. North do.	3·76	1·09	+2·61	0·67	1·55	— 0·88	26·44	35·89	— 9·45	0·16	0·42	—0·26	30·97	38·95	— 7·98
	21. United Provinces Central.	2·94	0·78	+2·16	0·29	0·73	— 0·44	27·76	32·41	— 4·65	0·14	0·39	—0·25	31·13	34·31	— 3·18
	22. United Provinces West.	2·40	0·88	+1·52	0·22	1·04	— 0·82	16·53	24·06	— 7·53	0·19	0·35	—0·16	19·34	26·33	— 6·99
	23. United Provinces East Submontane.	3·59	0·98	+2·61	1·87	1·77	+ 0·10	30·09	39·69	— 9·60	0·01	0·26	—0·25	35·56	42·70	— 7·14
	24. United Provinces West Submontane.	4·83	2·51	+2·32	1·77	2·11	— 0·34	38·48	41·15	— 2·67	0·57	0·60	—0·03	45·65	46·37	— 0·72
	25. United Provinces Hills.	7·46	4·79	+2·67	3·80	5·46	— 1·66	53·00	50·06	+ 2·94	1·07	0·74	+0·33	65·33	61·05	+ 4·28
Punjab and North-West Frontier Province.	26. South-East Punjab	2·49	1·13	+1·36	0·54	1·29	— 0·75	12·80	20·76	— 7·96	0·18	0·33	—0·15	16·01	23·51	— 7·50
	27. South do.	1·82	1·08	+0·74	1·00	1·40	— 0·40	7·96	13·21	— 5·25	0·12	0·33	—0·21	10·90	16·02	— 5·12
	28. Central do.	2·34	2·00	+0·34	3·30	2·36	+ 0·94	10·00	14·00	— 4·00	0	0·51	—0·51	15·64	18·87	— 3·23
	29. Punjab Submontane	5·78	2·90	+2·88	3·00	2·70	+ 0·30	20·61	24·38	— 3·77	0·14	0·75	—0·61	29·53	30·73	— 1·20
	30. Do. and North-West Frontier Province Hills.	13·14	6·55	+6·59	7·11	8·50	— 1·39	41·46	45·89	— 4·43	0·65	1·60	—0·95	62·36	61·54	— 0·18

TABLE XXVIII.—*Average actual and normal rainfall data of the 57 meteorological divisions in India for the four seasons of the year 1901 and for the whole year*—concld.

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Punjab and North-West Frontier Province—*concld.*	31. North Punjab	4·95	3·23	+1·72	10·36	4·95	+5·41	10·09	12·26	— 2·17	0	1·37	—1·37	25·40	21·81	+ 3·59
	32. West do.	0·99	0·98	+0·01	2·80	1·40	+1·40	3·81	6·22	— 2·41	0	0·33	—0·33	7·60	8·93	— 1·33
Bombay and Malabar Coast Districts (Madras).	33. Malabar	1·06	0·38	+0·68	9·99	11·01	—1·02	110·22	109·94	+ 0·28	12·91	4·19	+8·72	134·18	125·52	+ 8·66
	33A. Travancore	3·62			15·24			64·24			17·39			100·49		
	34. Madras South Central	1·22	0·46	+0·76	5·49	5·90	—0·41	18·92	18·15	+ 0·77	6·59	5·05	+1·54	32·22	29·56	+ 2·66
	35. Coorg	1·58			7·04			86·34			7·21			102·17		
	36. Mysore	1·41	0·18	+1·23	5·63	5·18	+0·45	27·36	25·94	+ 1·42	3·43	3·17	+0·26	37·83	34·47	+ 3·36
	37. Konkan	0·25	0·14	+0·11	2·10	2·08	+0·02	102·55	111·62	— 9·07	0·46	1·24	—0·78	105·36	115·08	— 9·72
	38. Bombay Deccan	0·76	0·10	+0·66	5·24	2·78	+2·46	27·38	31·86	— 4·48	0·41	1·85	—1·44	33·79	36·59	— 2·80
	39. Hyderabad North	1·66	0·17	+1·49	3·48	1·42	+2·06	30·10	33·38	— 3·28	0·02	1·89	—1·87	35·26	36·86	— 1·60
	40. Khandesh	0·87	0·13	+0·74	1·19	1·23	—0·04	23·83	29·93	— 6·10	0·01	1·48	—1·47	25·90	32·77	— 6·87
Central Provinces and Berar.	41. Berar	2·27	0·65	+1·62	1·34	1·25	+0·09	32·41	37·48	— 5·07	0	1·18	—1·18	36·02	40·56	— 4·54
	42. Central Provinces West.	2·53	0·77	+1·76	1·66	0·95	+0·71	37·58	42·05	— 4·47	0	0·90	—0·90	41·77	44·67	— 2·90
	43. Central Provinces Central.	3·33	0·77	+2·56	2·27	1·26	+1·01	49·82	48·90	+ 0·92	0	0·70	—0·70	55·42	51·63	+ 3·79
	44. Central Provinces East.	5·85	0·82	+5·03	2·04	1·94	+0·10	42·93	46·55	— 3·62	0·08	0·77	—0·69	50·90	50·08	+ 0·82
Bombay (North)	45. Gujarat	0·12	0·08	+0·04	0·33	0·32	+0·01	25·26	43·39	—18·13	0	0·24	—0·24	25·71	44·03	—18·32
	46. Kathiawar and Cutch	0·07	0·14	—0·07	0·24	0·37	—0·13	12·30	27·32	—15·02	0·01	0·36	—0·35	12·62	28·19	—15·57
	47. Sind	0·35	0·71	—0·36	0·51	0·60	—0·09	1·33	4·51	— 3·18	0·04	0·18	—0·14	2·23	6·00	— 3·77
	48. Baluchistan Hills	1·89	3·84	—1·95	2·67	1·68	+0·99	1·34	2·43	— 1·09	0	1·62	—1·62	5·90	9·57	— 3·67
Rajputana and Central India.	49. Central India East	1·75	0·96	+0·79	0·39	0·75	—0·36	31·57	40·08	— 8·51	0·09	0·72	—0·63	33·80	42·51	— 8·71
	50. Rajputana East and Central India West.	1·42	0·69	+0·73	0·29	0·81	—0·52	15·77	26·21	—10·44	0·03	0·49	—0·46	17·51	28·20	—10·69
	51. West Rajputana	0·34	0·43	—0·09	0·18	0·72	—0·54	6·02	11·18	— 5·16	0·03	0·25	—0·22	6·57	12·58	— 6·01
Madras	52. East Coast North	3·55	0·50	+3·05	3·86	3·61	+0·25	26·61	34·59	— 7·98	6·19	3·31	+2·88	40·21	42·01	— 1·80
	53. Hyderabad South	2·59	0·24	+2·35	4·27	2·24	+2·03	20·13	25·92	— 5·79	0·71	1·56	—0·85	27·70	29·96	— 2·26
	54. Madras Central	2·18	0·12	+2·06	3·13	2·46	+0·67	13·86	19·65	— 5·79	3·36	2·59	+0·77	22·53	24·82	— 2·29
	55. East Coast Central	3·51	0·57	+2·94	1·24	1·91	—0·67	14·18	20·51	— 6·33	17·68	10·19	+7·49	36·61	33·18	+ 3·43
	56. East Coast South	3·07	0·90	+2·17	2·81	3·40	—0·59	20·93	23·13	— 2·10	17·76	14·15	+3·61	43·67	41·58	+ 2·09
	57. Madras South	2·94	1·41	+1·53	6·45	4·92	+1·53	11·03	12·42	— 1·39	11·10	9·82	+1·28	31·52	28·57	+ 2·95

TABLE XXIX.—*Average actual and normal number of rainy days of the 57 meteorological divisons of India for the four seasons of the year 1901 and for the whole year.*

PROVINCE.	DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER.			WHOLE YEAR.		
		Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.
BURMA	1. Tenasserim	2·9			21·8			123·6			3·7			152·0		
	2. Lower Burma Deltaic	2·3			14·8			108·8			2·6			128·5		
	3. Central do.	1·7			8·6			80·9			1·7			92·9		
	4. Upper do.	1·3			9·1			47·1			2·9			60·4		
	5. Arakan	1·2			10·3			103·2			4·9			119·6		
BENGAL AND ASSAM	6. Eastern Bengal	1·8	2·5	−0·7	14·7	19·4	−4·7	70·2	71·1	− 0·9	3·6	1·9	+1·7	90·3	94·9	− 4·6
	7. Assam Surma	1·5	4·2	−2·7	27·4	35·7	−8·3	87·2	88·2	− 1·0	4·8	2·4	+2·4	120·9	130·5	− 9·6
	8. Do. Hills	3·1	3·9	−0·8	24·8	29·4	−4·6	91·5	89·7	+ 1·8	5·0	3·2	+1·8	124·4	126·2	− 1·8
	9. Do. Brahmaputra	5·5	5·5	0	26·1	32·0	−5·9	69·7	69·1	+ 0·6	4·3	2·2	+2·1	105·6	108·8	− 3·2
	10. Deltaic Bengal	5·3	2·5	+2·8	12·3	14·0	−1·7	56·4	62·4	− 6·0	4·5	1·4	+3·1	78·5	80·3	− 1·8
	11. Central do.	4·8	2·4	+2·4	8·8	11·1	−2·3	49·3	58·7	− 9·4	2·9	1·0	+1·9	65·8	73·2	− 7·4
	12. North do.	3·4	2·1	+1·3	13·3	17·9	−4·6	61·3	65·3	− 4·0	2·4	0·5	+1·9	80·4	85·8	− 5·4
	13. Bengal Hills	4·5	3·6	+0·9	23·8	24·7	−0·9	81·6	89·7	− 8·1	3·1	1·4	+1·7	113·0	119·4	− 6·4
	14. Orissa	4·3	2·0	+2·3	9·8	9·2	+0·6	51·1	59·2	− 8·1	5·0	2·5	+2·5	70·2	72·9	− 2·7
	15. Chota Nagpur	9·5	2·8	+6·7	5·8	6·8	−1·0	49·3	58·7	− 9·4	1·4	1·1	+0·3	66·0	69·4	− 3·4
	16. South Bihar	6·2	2·6	+3·6	3·6	3·6	0	34·9	46·5	−11·6	0·8	0·6	+0·2	45·5	53·3	− 7·8
	17. North do.	5·1	2·4	+2·7	5·1	6·4	−1·3	36·8	49·7	−12·9	0·7	0·6	+0·1	47·7	59·1	−11·4
UNITED PROVINCES OF AGRA AND OUDH.	18. United Provinces East.	7·4	2·2	+5·2	2·1	2·1	0	33·8	40·9	− 7·1	0	0·6	−0·6	43·3	45·8	− 2·5
	19. South Oudh	7·4	2·0	+5·4	1·6	2·2	−0·6	28·9	37·9	− 9·0	0·3	0·7	−0·4	38·2	42·8	− 4·6
	20. North do.	7·1	2·1	+5·0	2·0	3·1	−1·1	30·5	38·1	− 7·6	0·7	0·7	0	40·3	44·0	− 3·7
	21. United Provinces Central.	6·6	1·9	+4·7	1·1	1·9	−0·8	28·4	36·2	− 7·8	0·4	0·6	−0·2	36·5	40·6	− 4·1
	22. United Provinces West.	5·7	2·2	+3·5	0·7	2·7	−2·0	21·7	27·6	− 5·9	0·8	0·5	+0·3	28·9	33·0	− 4·1
	23. United Provinces East Submontane.	6·6	2·2	+4·4	3·0	3·1	−0·1	35·5	41·6	− 6·1	0	0·5	−0·5	45·1	47·4	− 2·3
	24. United Provinces West Submontane.	9·1	4·5	+4·6	3·6	4·4	−0·8	33·5	37·3	− 3·8	1·5	1·1	+0·4	47·7	47·3	+ 0·4
	25. United Provinces Hills.	8·2	8·4	−0·2	8·3	11·8	−3·5	48·8	59·1	−10·3	1·9	1·7	+0·2	67·2	81·0	−13·8
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.	26. South-East Punjab	7·1	2·5	+4·6	1·7	3·0	−1·3	16·4	22·7	− 6·3	0·5	0·8	−0·3	25·7	29·0	− 3·3
	27. South do.	4·4	2·4	+2·0	2·8	2·9	−0·1	10·9	15·5	− 4·6	0·4	0·6	−0·2	18·5	21·4	− 2·9
	28. Central do.	4·2	4·1	+0·1	5·0	4·8	+0·2	12·7	15·9	− 3·2	0	0·8	−0·8	21·9	25·6	− 3·7
	29. Punjab Submontane	9·1	4·9	+4·2	5·1	4·9	+0·2	20·0	23·8	− 3·8	0·4	1·1	−0·7	34·6	34·7	− 0·1
	30. Do. and North-West Frontier Province Hills.	15·5	8·7	+6·8	8·9	13·2	−4·3	39·4	46·0	− 6·6	1·0	2·2	−1·2	64·8	70·1	− 5·3

TABLE XXIX.—*Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1901 and for the whole year*—concld.

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole Year.		
		Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.
Punjab and North-West Frontier Province—*concld.*	31. North Punjab	7·6	5·4	+2·2	11·8	7·8	+4·0	14·9	15·4	−0·5	0	1·7	−1·7	34·3	30·3	+4·0
	32. West "	2·3	2·4	−0·1	4·2	2·9	+1·3	6·0	8·6	−2·6	0	0·6	−0·6	12·5	14·5	−2·0
Bombay and Malabar Coast Districts (Madras).	33. Malabar	1·7	0·3	+1·4	15·2	13·7	+1·5	92·7	97·6	−4·9	14·3	6·2	+8·1	123·9	117·8	+6·1
	33A. Travancore	5·5			22·2			66·7			18·9			113·3		
	34. Madras South-Central	2·0	0·7	+1·3	7·6	9·3	−1·7	26·7	28·5	−1·8	10·7	7·9	+2·8	47·0	46·4	+0·6
	35. Coorg	3·1			13·2			97·4			11·2			124·9		
	36. Mysore	2·1	0·3	+1·8	9·5	8·7	+0·8	41·3	39·4	+1·9	7·1	4·9	+2·2	60·0	53·3	+6·7
	37. Konkan	0·5	0·2	+0·3	2·9	3·2	−0·3	87·1	94·3	−7·2	1·2	2·0	−0·8	91·7	99·7	−8·0
	38. Bombay Deccan	1·5	0·3	+1·2	9·4	5·6	+3·8	41·8	46·1	−4·3	1·1	3·1	−2·0	53·8	55·1	−1·3
	39. Hyderabad North	3·2			6·7			44·7			0·1			54·7		
	40. Khandesh	1·6	0·2	+1·4	2·7	2·1	+0·6	38·6	42·1	−3·5	0	2·2	−2·2	42·9	46·6	−3·7
Central Provinces and Berar.	41. Berar	3·6			3·3			41·0			0			47·9		
	42. Central Provinces West.	5·5	1·4	+4·1	4·7	2·1	+2·6	45·1	49·1	−4·0	0	1·2	−1·2	55·3	53·8	+1·5
	43. Central Provinces Central.	7·6	1·7	+5·9	5·0	2·8	+2·2	52·0	52·4	−0·4	0	1·1	−1·1	64·6	58·0	+6·6
	44. Central Provinces East.	11·3	1·7	+9·6	5·0	3·7	+1·3	51·3	49·5	+1·8	0·3	1·3	−1·0	67·9	56·2	+11·7
Bombay (North)	45. Gujarat	0·3	0·2	+0·1	0·7	0·5	+0·2	31·1	47·9	−16·8	0	0·5	−0·5	32·1	49·1	−17·0
	46. Kathiawar and Cutch	0·3	0·2	+0·1	0·6	0·6	0	18·9	27·3	−8·4	0	0·4	−0·4	19·8	28·5	−8·7
	47. Sind	1·0			1·2			2·6			0·2			5·0		
	48. Baluchistan Hills	5·2			4·6			2·5			0			12·3		
Rajputana and Central India.	49. Central India, East	3·7			1·2			36·2			0·3			41·4		
	50. Rajputana East and Central India, West.	3·5			1·1			21·1			0·2			25·9		
	51. West Rajputana	1·0			0·4			8·3			0·1			9·8		
Madras	52. East Coast North	5·2	0·6	+4·6	6·1	6·1	0	41·3	46·1	−4·8	5·1	3·5	+1·6	57·7	56·3	+1·4
	53. Hyderabad South	5·2			6·3			33·0			1·6			46·1		
	54. Madras Central	3·2	0	+3·2	5·9	4·6	+1·3	27·1	30·7	−3·6	6·5	4·1	+2·4	42·7	39·4	+3·3
	55. East Coast Central	5·5	1·1	+4·4	1·6	2·7	−1·1	26·9	28·3	−1·4	14·0	9·1	+5·1	48·2	41·2	+7·0
	56. East Coast South	4·3	1·5	+2·8	4·9	4·6	+0·3	28·8	31·3	−2·5	17·7	14·3	+3·4	55·7	51·7	+4·0
	57. Madras South	4·8	2·3	+2·5	10·3	7·6	+2·7	16·5	18·7	−2·2	14·5	12·5	+2·0	46·1	41·1	+5·0

I.—The cold weather period.—The first three weeks of January were very unsettled over the greater part of the Indian region. A series of depressions, which either advanced to North-West India from countries further to the westward, or were developed over North Bombay and the north-east of the Arabian Sea, passed from west to east across the country, and though these depressions, with one exception, only slightly affected the barometric pressure, they were accompanied with widespread showers. On the 1st snow was falling on the hills, and rain on the plains of Northern India, while some showers had extended to the central stations. On this day the sky was densely clouded all over Northern India and the air was exceedingly damp. Rain gradually ceased during the next few days and the weather improved. Throughout the previous month the existence of a low pressure area over Kathiawar, Gujarat and the adjacent parts of the Arabian Sea was a marked feature of the pressure distribution. This feature re-appeared in January, and on the 7th a depression was shown over Kathiawar. This depression moved into Gujarat and South-East Rajputana on the 8th and subsequently into the Central Provinces, where it filled up. It was throughout a shallow and ill-defined depression, but it occasioned showers all over Rajputana and the more central parts of the country. On the 10th and 11th the weather became disturbed and unsettled in Persia, while temperature rose briskly in Upper Sind and Baluchistan. These changes were followed by the appearance of a barometric depression which entered Sind on the morning of the 12th. This depression was the most important of the month, as, apparently, it gave rise to a secondary disturbance in the Punjab. This complex disturbance traversed North-Western India and was accompanied with excessively unsettled weather with heavy snow on the hills and heavy rain on the plains. After the rapid barometric rise, which succeeded the breaking up of this depression, the weather changed. The barometer rose above the normal and, though another depression developed over Kathiawar on the 16th, and thence passed eastward across the head of the Peninsula, occasioning showery unsettled weather in its progress, conditions did not become seriously disturbed after the 20th. By the 22nd pressure was higher than usual everywhere, but particularly in the north-west, and strongly marked anti-cyclonic conditions were established which practically held until the end of the month. The rainfall of the month was in excess over nearly the whole country. The excess was most marked in Chota Nagpur, the east of the United Provinces, Berar and North Madras, where the rainfall was unusually heavy. The snowfall on the Himalayas was also heavy, but in Baluchistan the total rainfall for the month was about normal.

There were in all five periods of rainfall over India during February. The most important of these was from the 11th to the 16th, when the land area surrounding the Bay received exceptionally heavy rainfall. The disturbed periods were the 1st and 2nd, when the extreme north-west received rain and snow; the 4th to the 7th, when the Punjab and the North-Western Provinces received rain; the 11th to the 16th, when parts of Bengal the Madras coast districts and Burma received very heavy rain; the 18th to the 20th, when the Deccan and Central and North-West India received general rain; and the 22nd and 23rd, when the Peninsula received rain and the Kumaun Himalayas received snow.

The rainfall of the month was absolutely or practically *nil* over the Konkan, Khandesh, Gujarat, Kathiawar and Cutch and Western Rajputana, while it averaged over seven inches in the Punjab Hills and more than three inches in Lower Burma and the central division of the east coast, and more than 4 inches in the east of the Central Provinces. The total rainfall of the month was everywhere above the normal, except in North Bombay and the adjacent districts and in part of North-East India. The excess was large in many areas; it was excessively large in parts of Burma and of the Peninsula and very large in parts of Bengal, the United Provinces and the Central Provinces.

The rainfall of the whole cold weather period was characterized by the following features:—

(1) The precipitation of the period was somewhat irregularly distributed at the hill stations in Upper India and was on the mean of the whole area in moderate to large excess. The following gives comparative data for seven stations in illustration:—

Station.	Rainfall.					
	Actual, January.	Actual, February.	Total actual of period, January and February.	Total normal of period, January and February.	Variation from normal.	Percentage variation from normal.
	Inches	Inches.	Inches.	Inches	Inches.	
Murree . . .	6·01	1·71	7·72	7·25	+0·47	+ 6
Simla . . .	6·20	9·04	15·24	5·03	+10·21	+203
Dalhousie . . .	9·84	6·33	16·17	5·80	+10·37	+179
Dharamsala . .	10·45	7·22	17·67	8·95	+8·72	+ 97
Mussooree . . .	8·66	4·89	13·55	5·72	+7·83	+137
Ranikhet . . .	4·03	3·40	7·43	4·89	+2·54	+ 52
Kailang . . .	2·71	4·63	7·34	4·33	+3·01	+ 70

(2) The following gives the amounts of snowfall registered at five of the stations in the Western Himalayas where the measurements are believed to be most carefully taken:—

District or State.	Station.	Height, in feet, above sea-level.	Total snowfall in the month of			Approximate normal snowfall of period.
			January.	February.	Total.	
			Ft. In.	Ft. In.	Ft. In.	Ft. In.
Rawalpindi .	Murree .	6,333	7 11	4 9	12 8	11 9
Lahoul . .	Kailang .	10,087	1 10	3 8	5 6	4 7
Chamba .	Kalatap .	8,000	5 9	7 0	12 9	9 11
Kumaon .	{Pindari Pass Ratumdhura Pass .	...	8 0	4 6	12 6	13 5*
		...	16 0	18 0	34 0	33 3*

* Mean of 4 years.

(3) The rainfall of the period was more or less below the normal in Baluchistan, Sind, West Rajputana and Kathiawar and Cutch in the west of India and in Assam and East Bengal in the east. The deficiency was, however, small, except in Baluchistan and Assam Surma, which obtained only 49 and 19 per cent., respectively, of their normal amounts. The following gives comparative data for the regions of deficient rainfall during the cold weather period :—

Area.	Rainfall of period, January and February.			
	Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Eastern Bengal	0·74	1·42	—0·68	—48
Assam, Surma	0·45	2·38	—1·93	—81
„ Hills	1·22	1·86	—0·64	—34
„ Brahmaputra	1·93	2·12	—0·19	— 9
Kathiawar and Cutch	0·07	0·14	—0·07	—50
Sind	0·35	0·71	—0·36	—51
Baluchistion Hills	1·89	3·84	—1·95	—51
West Rajputana	0·34	0·43	—0·09	—21

(4) The rainfall of the period was in excess of the normal over the remainder of the country. The excess averaged more than one inch in the areas for which data are given below :—

Area.	Rainfall of period, January and February.			
	Average actual.	Average normal.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Deltaic Bengal	2·70	1·63	+1·07	+ 66
Orissa	4·34	1·16	+3·18	+274
Chota Nagpur	6·41	1·42	+4·99	+351
South Bihar	3·56	1·30	+2·26	+174
United Provinces East	4·19	0·99	+3·20	+ 32
South Oudh	3·34	0·95	+2·39	+252
North „	3·70	1·09	+2·61	+239
United Provinces Central	2·94	0·78	+2.16	+277
„ „ West	2·40	0·88	+1·52	+173
„ „ East Submontane	3·59	0·98	+2·61	+266
„ „ West „	4·83	2·51	+2·32	+ 92
„ „ Hills	7·46	4·79	+2·67	+ 56
South East Punjab	2·49	1·13	+1·36	+120
Punjab Submontane	5·78	90	+2·88	+ 99
Punjab and North-West Frontier Province Hills	13·14	6·55	+6·59	+101
North Punjab	4·95	3·23	+1·72	+ 53
Mysore	1·41	0·18	+1·23	+683
Hyderabad North	1·66	0·17	+1·49	+876
Berar	2·27	0·65	+1·62	+249
Central Provinces West	2·53	0·77	+1·76	+229
„ „ Central	3·33	0·77	+2·56	+332
„ „ East	5·85	0·82	+5·03	+613
Madras East Coast North	3·55	0·50	+3·05	+610
Hyderabad South	2·39	0·24	+2·35	+979
Madras Central	2·18	0·12	+2·06	+1,717
„ East Coast Central	3·51	0·57	+2·94	+516
„ „ „ South	3·07	0·90	+2·17	+241
„ South	2·94	1·41	+1·53	+109

The preceding data indicate that the rainfall of the season was largely above the normal over nearly the whole of the Peninsula, Upper India, the Gangetic Plain and Bengal, and that the excess was most marked in the Punjab Hills (6·59 inches), the Central Provinces East (5·03 inches) and Chota Nagpur (4·99 inches).

(5) The average rainfall of the period for the whole of the plains of India was 2·44 inches, and was 1·45 inches, or 146 per cent., in excess of the normal of the period.

II.—The hot weather period.—The rainfall of the month of March was actually or practically *nil* (*i.e.*, was less than one-tenth of an inch) over the South-West Punjab, the greater part of Rajputana, nearly the whole of the Bombay Presidency, and across the centre of Peninsula. It was also *nil* over the greater part of Burma. South India received numerous thundershowers about the middle of the month and Ceylon had thunder-storms accompanied with rain at intervals throughout the month. The principal periods of rainfall in Northern and Central India were initiated by cold weather disturbances in Upper India. Between the 1st and 5th there were showers over the central parts of the country; between the 6th and the 8th there was general snow on the north-west hills and rain spread eastward from the Punjab to Bengal; between the 19th and the 24th there were scattered showers over Central and North-East India and general showers in North-West India; and on the 30th and 31st there was general snow on the North-West Himalayas and general showers on the adjacent plains. One of the chief features of the rainfall of the month was the relatively heavy rain over North-West India and parts of the Peninsula; another was the unusual lightness of the fall over Inland Burma and North East India. In other parts of the country the variations from normal were irregular.

April was drier than usual over a large part of the country. The only important exceptions were Assam, East Bengal, Deltaic Bengal, Orissa, Chota Nagpur, the North Punjab, the west and south of the Peninsula and the Central Provinces, in all of which areas the rainfall was equal to or in excess of the normal. The excess in the west of the Peninsula and the central parts of the country was very large relatively to the small normal fall: in the former area it was due to a cyclonic storm in the Arabian Sea. On the other hand, over the greater part of Northern India from Bihar westward to the Punjab and Rajputana, as well as over parts of the east of the Peninsula, the month's rainfall was very small and in several places actually or practically *nil.* A series of slight depressions entered North-West India from the westward during the month, occasioning snow on the hills and some rain in the submontane areas but otherwise the influence of these depressions was small. Towards the close of the month the barometer rose over Northern and Central India, but was low over the Peninsula and the Arabian Sea in consequence of the development of a cyclonic storm in the latter area, which gave moderately heavy rain over the Peninsula, more particularly in the west, and raised the month's total rainfall above the normal average in that area.

The principal features of the rainfall distribution of the month were deficiency of rain in Burma, Northern India (except Assam and the areas round the head of the Bay) and in the east of the Peninsula and excess of rain over the west of the Peninsula, the central parts of the country, Orissa and Deltaic and East Bengal.

During the month of May the weather was more showery and disturbed than usual over the greater part of the interior of the Peninsula the Bombay Deccan, Mysore and part of Madras, the rainfall of the month being largely above normal in Central Madras. At the beginning of the month a severe storm in the extreme north-west gave exceptionally heavy and widespread rainfall in that area, and the totals of the month were in large excess in Baluchistan, Sind, the greater part of the Punjab and the east submontane divisions of the United Provinces. In other parts of the country the rainfall of the month varied from normal to large defect. The usual spring showers in North-East India and Assam were both lighter and fewer than usual; consequently in Arakan, East Bengal, Assam and Chota Nagpur the rainfall of the month was only about half the normal average. In parts of the United Provinces the month's rainfall was very light, averaging only 0·05″ in the western division. Central India and Rajputana had almost equally light rainfall, the average for the month over those areas ranging between 0·10″ and 0·16″, or only a little more than one-quarter of the normal amount. No advances of monsoon winds occurred over the south of the Peninsula, but a feeble depression which struck the Arakan coast on the 25th brought up the monsoon with it over the east of the Bay and Burma, and from about the 21st to the end of the month steady monsoon rainfall was received over Tenasserim and Burma.

The following sums up the principal features of the distribution of rainfall during the period:—

1st.—The rainfall in Burma was normal or in excess in March and generally in defect in April and May, and was on the mean of the whole period normal in Upper Burma, in moderate defect in Lower Burma and largely below normal in Tenasserim, Arakan and Central Burma.

The following gives comparative data :—

Division.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period March to May.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
Tenasserim	+1·09	—3·03	—7·00	—8·94	—32
Lower Burma Deltaic . . .	+0·29	—1·47	—1·93	—3·11	—22
Central „	—0·03	—0·87	—1·48	—2·38	—31
Upper „	—0·19	—0·40	+0·14	—0·45	— 6
Arakan	—0·34	—1·26	—2·35	—3·95	—28

2nd.—Bengal and Assam obtained less than the usual amount of rain, the deficiency being most marked in Assam, East and North Bengal and Sikkim.—the districts which usually receive moderately heavy rain in April and May.

The following gives data for this area:—

Division.	Variation of rainfall from normal.				
	March.	April.	May.	Total of period, March to May.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
Eastern Bengal	—2·23	+0·54	—4·65	—6·34	—37
Assam Surma	—6·13	+2·53	—10·74	—14·34	—37
„ Hills	—2·86	+0·99	—6·96	—8·83	—32
„ Brahmaputra . . .	—2·27	—1·03	—5·64	—8·94	—38
Deltaic Bengal	—1·56	+1·32	—0·56	—0·80	— 8
Central „	—0·84	—0·31	—0·22	—1·37	—18
North „	—0·91	—2·89	—2·57	—6·37	—40
Bengal Hills	—0·11	—2·67	—4·35	—7·13	—39
Orissa	—0·77	+0·60	—1·48	—1·65	—24
Chota Nagpur	—0·48	+0·04	—1·11	—1·55	—38
Bihar, South	+0·01	—0·18	+0·01	—0·16	— 7
„ North	0	—0·70	0	—0·70	—16

3rd.—The rainfall of the period was normal or in defect in Northern and Central India, with the exception of the part of the Punjab which obtained a heavy burst of rain from

a cyclonic storm in the first week of May. The following gives data:—

Division.	Variation of Rainfall from Normal.				
	March.	April.	May.	Total of period, March to May.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
United Provinces East	+0·43	—0·11	—0·23	+0·09	+10
South Oudh	—0·09	—0·07	—0·38	—0·54	—55
North „	—0·24	—0·13	—0·51	—0·88	—57
United Provinces Central	—0·13	—0·05	—0·26	—0·44	—60
„ „ West	—0·25	—0·14	—0·43	—0·82	—79
„ „ East Submontane	+0·04	—0·25	+0·31	+0·10	+6
„ „ West „	+0·01	—0·25	—0·10	—0·34	—16
„ „ Hills	—0·74	—0·78	—0·14	—1·66	—30
South-East Punjab	—0·11	—0·25	—0·39	—0·75	—38
South „	+0·07	—0·31	—0·16	—0·40	—29
Central „	—0·03	—0·20	+1·17	+0·94	+40
Punjab Submontane	+0·23	—0·58	+0·65	+0·30	+11
Punjab and North-West Frontier Province Hills.	—0·30	—1·78	+0·69	—1·39	—16
North Punjab	+0·67	—0·10	+4·84	+5·41	+109
West „	—0·04	—0·12	+1·56	+1·40	+100
Central Provinces West	+0·58	+0·38	—0·25	+0·71	+75
„ „ Central	+0·82	+0·44	—0·25	+1·01	+80
Gujarat	+0·02	+0·08	—0·09	+0·01	+3
Kathiawar and Cutch	—0·04	—0·06	—0·03	—0·13	—35
Sind	—0·14	—0·19	+0·24	—0·09	—15
Central India East	—0·06	—0·01	—0·29	—0·36	—48
Rajputana East and Central India West.	—0·13	—0·04	—0·35	—0·52	—64
West Rajputana	—0·11	—0·05	—0·38	—0·54	—75

4th.—Weather was drier than usual in Baluchistan in March and April, and the rainfall was hence in slight defect. Heavy rain occurred in the first week of May, which gave total amounts for the month considerably in excess of the normal and brought the total precipitation of the season to moderately over normal, as is shown by the following data:—

Area.	Variation of Rainfall from Normal.				
	March.	April.	May.	Total of period, March to May.	Percentage variation from normal.
	Inch.	Inch.	Inches.	Inch.	Inch.
Baluchistan	—0·23	—0·27	+1·49	+0·99	+59

5th.—The precipitation of the period was in light to moderate defect in Malabar, the central and southern coast districts of Madras, as well as in South-Central Madras; it was about normal in Mysore, the Konkan, Khandesh, Berar and the eastern districts of the Central Provinces and in slight to considerable excess in the remainder of the Peninsula. The deficiency was largest in actual amount in Malabar in consequence of the scanty fall in May.

The following gives data:—

Division.	Variation of Rainfall from Normal.				
	March.	April.	May.	Total of period, March to May.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
Malabar	+0·60	+0·68	—2·30	—1·02	— 9
Madras South Central	—0·33	—0·82	+0·74	—0·41	— 7
Mysore	—0·22	—0·04	+0·71	+0·45	+ 9
Konkan	+0·03	+0·74	—0·75	+0·02	+ 1
Bombay Deccan	+0·18	+1·65	+0·63	+2·46	+55
Hyderabad North	+0·60	+1·38	+0·08	+2·06	+145
Khandesh	+0·16	+0·22	—0·42	—0·04	— 3
Berar	+0·17	+0·23	—0·31	+0·09	+ 7
Central Provinces East	+0·59	—0·14	—0·35	+0·10	+ 5
Madras East Coast North	—0·29	+0·17	+0·37	+0·25	+ 7
Hyderabad South	—0·25	+2·33	—0·05	+2·03	+ 91
Madras Central	—0·18	—0·03	+0·88	+0·67	+ 27
„ East Coast Central	—0·17	—0·45	—0·05	—0·67	— 35
„ „ „ South	—0·09	—0·34	—0·16	—0·59	— 17
„ South	+1·12	+0·41	0	+1·53	+ 31

III.—The south-west monsoon period.—The monsoon set in somewhat later than usual on the West Coast and about the normal date on the Bengal Coast. The initial advance was not so vigorous as usual and failed to penetrate inland. Hence over the greater part of the interior the burst of heavy continuous rain which marks the beginning of the south-west monsoon rains proper did not occur until the second week in July.

The following gives the dates of the establishment of the monsoon (*i.e.*, of the first burst of heavy monsoon rainfall) in different parts of India:—

Province or Division.	Date of commencement of the monsoon rains in 1901.
Malabar	6th June.
Konkan	11th „
Kathiawar	7th July.
Central Provinces	28th June.

Province or Division.	Date of commencement of the monsoon rains in 1901.
Central India	5th July.
Rajputana	8th „
Bengal	13th June.
Chota Nagpur	6th July.
Bihar	6th „
United Provinces	9th „
Punjab	9th „

The monsoon currents were feebler than usual in July and of normal strength in August. The Bay current was fairly strong in September. The Bombay current, on the other hand, was considerably weaker than usual in the latter month and retreated in the first week from North-West and Central India, or nearly a fortnight before its normal date. The following gives the approximate dates of the termination of the rains in India:—

Province or Division.	Date of termination of the monsoon rains in 1901.
Malabar	28th October.
North Konkan	13th September.
Kathiawar	13th „
Central Provinces	25th „
Central India	25th „
Rajputana	2nd „
East Punjab	5th „
United Provinces	26th „
Bihar	27th „
Bengal	9th October.
Burma	24th „
Tenasserim	2nd November.

The following is a brief statement of the more important features of the rainfall of the period, firstly, from month to month, and, secondly, for the whole period:—

June.—The chief features in the meteorology of the month were the delays in the extension of the Arabian Sea monsoon current into North Bombay and the interior of the Peninsula, and of the Bengal monsoon current into West Bengal and the Gangetic Plain. Monsoon rainfall commenced in Malabar on the 6th and extended into the Konkan on the 11th or 12th, but did not advance north of Bombay, so that, although Gujarat received irregular and at times heavy rainfall, Kathiawar and Sind received no rain of importance throughout the month. The monsoon also failed to extend over Berar, the Central Provinces, the east of Rajputana and the west of the United Provinces, where practically the only rainfall received was a feeble burst between the 13th and 16th, coincident with the establishment of the monsoon on the Konkan Coast. About the 21st the rainfall diminished somewhat along the West Coast, and over the interior of the country the showers became lighter and less general. In Bengal the monsoon was ushered in by the advance of a feeble and shallow storm about the 13th, which gave a general though moderate burst of rain over West Bengal and the Gangetic Plain between the 13th and the 16th, but this was practically the only monsoon rainfall during the month. A showery period, due to disturbed weather in the Kashmir Himalayas, prevailed in the North and West Punjab from the 21st to the 25th. The rainfall of the interior of the country was almost everywhere deficient, due to the failure of the monsoon to extend inland.

July.—The rainfall of the month of July was irregularly distributed. During the first week the rainfall, due to the Arabian Sea current, was practically confined to the West Coast from Bombay southwards, the rainfall of the Bay current being restricted to Burma and North-East India.

The whole of the interior of the country was rainless, except for a few scattered showers. About the 8th slight depressions appeared in different parts of Northern India and a rapid extension of the monsoon current gave fairly general rain from the 8th to the 12th. After the latter date a break set in and continued up to the 16th or 17th, during which period rain was again confined to the West Coast and to Burma and North-East India, the whole of the central and north-western districts of the country being practically rainless. Between the 17th and the end of the month a series of very shallow and diffused depressions passed from the Bay into North-West India and during that time rain fell daily over a large part of Northern India. The amounts were not, however, generally heavy, so that the deficiency due to the delay in the full establishment of the rains and to the partial break between the 12th and the 17th, was not obliterated by the more general rainfall between the 18th and the close of the month. Only in Orissa, part of the East Coast, the central and submontane districts of the Punjab, Baluchistan, Malabar, Mysore and the Konkan was the total rainfall of the month in excess. But, although in the remainder of the country the total rainfall was short of the normal, the deficiency was not generally large or important and in most areas was less than 20 per cent. The area of greatest defect of rainfall included a large part of Northern India, the deficiency ranging from 24 per cent. in the Assam Hills to 54 per cent. in Kathiawar and Cutch.

August.—The distribution of the rainfall of the month was determined mainly by the barometric depressions of the month. The Arabian Sea monsoon current was slightly weaker than normal, but the rainfall along the West Coast, on the mean of the month, was approximately normal. The Bay of Bengal monsoon current was of the normal strength and the rainfall was above the normal on the Burma and Arakan Coasts, and about normal in Bengal. Six depressions developed over the Indian area during the month. Most of these were initiated over Bengal and were hence generally of feeble intensity. Their general course lay through Bengal, Chota Nagpur or South Bihar, the east of Central India, the north of the Central

Provinces and part of the United Provinces. The month's rainfall was generally in excess over Chota Nagpur, South Bihar, the east of Central India, the whole of the Central Provinces and Bihar, the greater part of the United Provinces and in the Punjab Hills. On the other hand, the monsoon currents only occasionally spread over Kathiawar, Sind, Rajputana and the Punjab, so that practically the whole of North-West India had less rain than usual, the deficiency in most areas being large. Over the interior and east of the Peninsula the rainfall was also short of the normal. As stated above, the Arabian Sea monsoon current gave about normal rain to the West Coast districts and this rainfall extended into the Bombay Deccan, but in Mysore, Hyderabad and the Madras districts the rainfall was in slight to considerable defect. There was a heavy burst of rain over the stations in the Kumaon Himalayas between the 20th and the 24th.

September was an abnormally dry month over the greater part of India, due to the weakness of the monsoon currents and their early withdrawal from a large part of the country. Two storms affected the weather during the month and occasioned rain over North-East India during the first ten days and the last ten days of the month, while in the intervening period, with the exception of thunderstorms over the Peninsula, the weather was exceptionally dry.

The rainfall was much heavier than usual on the Arakan Coast and was normal or slightly heavier than usual over other parts of Burma. In Assam the rainfall was on the whole lighter than the average. In North Bengal and the Bengal Hills and North Bihar the month's rainfall was less than usual, but in other parts of Bengal the month's fall was normal or in some excess due principally to the heavy rainfall which accompained the first cyclonic storm of the month. The east of the United Provinces, South Oudh and the hills division had normal rainfall during th e month, but over the remainder of the United Provinces the rainfall was very scanty. This deficiency of rain extended westward to all parts of the Punjab (except the North Punjab). Rajputana, Central India, Sind and Baluchistan. The Bombay or Arabian Sea monsoon cur rent was weak throughout the month and Gujarat, the West Coast, Berar and the west of the Central Provinces all received considerably less rain than usual. Over the interior and south of the Peninsula the weather was disturbed with numerous thunderstorms and the month's rainfall was heavier than usual over a large part of this area.

The second cyclonic storm of the month gave heavy rain to the East Coast and to the east of the Central Provinces and, as a consequence, the rainfall over these areas was generally normal or in only slight defect.

The following summarizes the chief fearures of the distribution of the rainfall of the south-west monsoon period, June to September, and also June to October :—

(1) The rainfall of the period, June to October, was more or less in defect in all the provinces of India and in excess in Burma.

The following gives data showing the genera deficiency :—

PROVINCE.	RAINFALL OF PERIOD.							
	JUNE TO SEPTEMBER.				JUNE TO OCTOBER.			
	Average actual, 1901.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1901.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches	Inches.		Inches.	Inches.	Inches.	
Burma . .	87·70	91·31	—3·61	—4	99·05	98·04	+1·01	+1
Assam . . .	68·41	71·49	—3·08	—4	74·88	77·21	—2·33	—3
Bengal . .	44·46	49·28	—4·82	—10	46·64	53·29	—6·65	—12
Unitd Provinces of Agra and Oudh	28·16	33·18	—5·02	—15	28·40	34·70	—6·30	—18
Punjab . .	10·71	14·83	—4·12	—28	10·88	15·14	—4·26	—28
Sind . . .	1·33	4·48	—3·15	—70	1·33	4·51	—3·18	—71
Bombay . .	43·26	47·45	—4·19	—9	45·97	51·70	—5·73	—11
Central Provinces and Berar.	39·74	41·63	—1·89	—5	40·69	43·75	—3·06	—7
Central India .	31·40	38·58	—7·18	—19	31·57	40·08	—8·51	—21
Rajputana . .	10·66	18·49	—7·83	—42	10·90	18·70	—7·80	—42
Gujarat . .	18·30	34·33	—16·03	—47	18·78	35·36	—16·58	—47
Madras . .	24·87	26·28	—1·41	—5	29·37	33·04	—3·67	—11

(2) The rainfall of the period was locally in excess in the areas for which data are given below :—

DIVISION.	RAINFALL OF PERIOD.							
	JUNE TO SEPTEMBER.				JUNE TO OCTOBER.			
	Average actual, 1901.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1901.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Upper Burma .	27·37	25·58	+1·79	+7	34·18	29·78	+4·40	+15
Eastern Bengal .	71·73	63·27	+8·46	+13	78·02	68·86	+9·16	+13
Unitd Provinces Hills.	52·24	48·73	+3·51	+7	53·00	50·06	+2·94	+6
Madras South-Central.	13·65	12·01	+1·64	+14	18·92	18·15	+0·27	+4
			+0·81					
Mysore . .	20·53	20·42		+1	27·36	25·94	+1·42	+5
Central Provinces Central.	49·53	47·05	+2·48	+5	49·82	48·90	+0·92	+3

(3) The deficiency was considerable to large over the reater part of North-Western India and small over the reater part of the Peninsula and North-East India It

exceeded 25 per cent. in amount in the following divisions:—

Division.	RAINFALL OF PERIOD.							
	June to September.				June to October.			
	Average actual, 1901.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1901.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
South Bihar .	28·26	37·10	—8·24	—22	29·24	39·70	—10·46	—26
North „	31·17	44·69	—13·52	—30	31·44	47·48	—16·04	—34
North Oudh .	26·34	34·28	—7·94	—23	26·44	35·89	—9·45	—26
United Provinces West.	16·11	23·52	—7·41	—32	16·53	24·06	—7·53	—31
South-East Punjab	12·77	20·40	—7·63	—37	12·80	20·76	—7·96	—38
South „	7·86	13·00	—5·14	—40	7·96	13·21	—5·25	—40
Central „	9·97	13·65	—3·68	—27	10·00	14·00	—4·00	—29
West „	3·81	6·12	—2·31	—38	3·81	6·22	—2·41	—39
Gujarat . .	24·55	42·03	—17·48	—42	25·26	43·39	—18·13	—42
Kathiawar and Cutch.	12·05	26·63	—14·58	—55	12·30	27·32	—15·02	—55
Sind . . .	1·33	4·48	—3·15	—70	1·33	4·51	—3·18	—71
Baluchistan Hills .	1·34	2·33	—0·99	—42	1·34	2·43	—1·09	—45
Rajputana East and Central India West.	15·43	25·87	—10·44	—40	15·77	26·21	—10·44	—40
West Rajputana .	5·88	11·11	—5·23	—47	6·02	11·18	—5·16	—46
Madras Central .	11·15	14·81	—3·66	—25	13·86	19·65	—5·79	—29
Madras East Coast Central.	10·48	11·83	—1·35	—11	14·18	20·51	—6·33	—31

The rainfall of the whole monsoon period was hence, relatively to the normal, most largely in defect in Sind, Kathiawar, Rajputana, Gujarat, Baluchistan and the South Punjab.

The following table gives the percentage deficiency in these divisions, month by month, during the season :—

Division.	Rainfall percentage variation from normal.				
	June.	July.	August.	September.	October.
Sind	—100	—40	—89	—100	—100
Kathiawar and Cutch . .	—65	—54	—31	—84	—64
West Rajputana . . .	—93	—16	—39	—96	+100
Baluchistan Hills . . .	—100	+7	—70	—60	—100
Gujarat	—50	—35	—7	—90	—48
South Punjab	—81	—15	—25	—87	—52
Rajputana East and Central India West.	—80	—24	—22	—92	0

IV.—The retreating south-west monsoon period.—October was on the whole slightly more disturbed than usual over the Bay area, but over the extreme north-west the number of disturbed periods was about normal or in slight excess. The storms, though slightly more numerous than the average, were not accompanied with much rain, and the general dryness which had characterised the greater part of the year did not disappear under the influence of these disturbances either in the Bay area or in the north-west. A very shallow depression appeared over the Punjab on the 1st. It was stationary over the West Punjab on the 2nd, 3rd and 4th, after which date it was transferred eastward through the Punjab into the west of the United Provinces, where it filledup on the 6th. The disturbance gave cloudy weather but practically no rain to the greater part of the Punjab, but during the 3rd, 4th and 5th moderate snow was received on the Afghan mountains and on the ranges of the Kashmir and North-West Himalayas, and rain and hail over the submontane regions of the Punjab. A shallow depression was shown over Burma and the Bay on the 3rd. On that and the following day barometric gradients increased over the south of the Bay accompanied with a strengthening of the south-west winds in the south, and the depression over the centre of the Bay underwent a marked and rapid development. The storm thus initiated formed the principal feature in the weather until the 10th. The storm passed along a curved path over the Bay, finally striking the Bengal coast near Barisal and breaking up over East Bengal on the 10th. The rainfall accompanying the storm was heavy only in Arakan on the 6th and in Bengal on the 9th. During the 11th, 12th and 13th, when the weather was generally quiet over the Indian area, a depression developed over the centre of the Bay. The storm struck the Circars coast near Waltair on the 14th, and thence passed in a north-westerly direction across the head of the Peninsula to Gujarat, finally disappearing over the north of the Arabian Sea on the 18th. Heavyish rain was received on the Circars coast on the 14th and 15th, and moderate rain accompanied the storm in its subsequent course across the Peninsula. There was actually or practically no rain throughout the month over a large part of North-Western India, and over nearly the whole of the remainder of India the average actual rainfall of the month was more or less in defect. The only important exception was in the north-east, where East Bengal and the Assam divisions reported normal or slightly excessive rain.

The weather in November was quiet over the greater part of the country from the 1st to the 13th. The retreating south-west monsoon gave more or less rain daily to the Peninsula south of Lat. 15°N., while the whole of Northern and Central India experienced fine and quiet weather with a high temperature. On the 13th the weather changed over the Bay and cyclonic conditions were established, and during the whole period from the 14th to the end of the month the weather over at least Southern and Eastern India was more or less influenced by cyclonic storms, one of which was of considerable intensity. The storms were, however, confined to the Bay area,

and the weather in North-Western and Central India was uninterruptedly fine throughout the whole month.

The month was practically rainless over the whole of North-Western and Central India and part of the Deccan. The actual rainfall of the month was in moderate to large excess of the normal over the south and east of the Peninsula, Bengal and Assam, while in Burma the variations from the normal were irregular. Very heavy rain was received on the 16th in Orissa and Ganjam from the first cyclonic storm of the month. Very light snow showers were received in parts of Kashmir during the month, but neither rain nor snow fell in Baluchistan or the Persian area.

The weather in December was, on the whole, finer than usual. Two disturbed periods were, however, experienced, the first covering the first twelve days of the month when conditions were stormy over the south of the Bay and the southern half of the Peninsula owing to a feeble depression, and the second covering the three days from the 25th to the 27th when a land-formed depression in North-West India gave rain and snow to the hills and rain to the submontane districts of Northern India.

The month was abnormally dry over the greater part of India and of Burma, and apparently this abnormal dryness extended westward over Baluchistan, Persia and Arabia, where, judging from the scanty data available, the total rainfall of the month was unusually light. The rainfall of the month was in excess over parts of the hill and submontane districts of Bengal and of the United Provinces due to the rain and snow accompanying a depression which lay over Gujarat and Rajputana on the 25th and thence travelled north-eastward to Central India on the two following days. The total rainfall of the month was also in excess in Malabar, Central Madras and the central and south divisions of the East Coast due to the heavy rainfall accompanying a depression which formed over the south of the Bay on the 6th and 7th and thence passed westward across the south of the Bay and the south of the Peninsula. The rainfall from this disturbance was particularly heavy in Chingleput on the 10th. Over the whole of the remainder of India the rainfall of the month was lighter than usual and over a large area of country, including the greater part of Burma, Assam, Bengal, the United Provinces and the Punjab, and the whole of Rajputana, Bombay, the Central Provinces, Central India, the Deccan and North Madras, the total rainfall of the month was less than one-tenth of an inch.

The following is a summary of the more important features of the rainfall of the period.

(1) The rainfall was in moderate to considerable excess over the greater part of Burma in October and in slight defect in November and December. On the mean of the whole period there was a large excess in Tenasserim and a slight to moderate excess in Burma proper.

The following gives data for the five divisions of the province:—

Division.	Variation of rainfall from normal.				
	October.	November.	December.	Total of period, October to December.	Percentage variation from normal.
	Inches.	Inches.	Inch.	Inches.	
Tenasserim . .	+7·20	+0·97	+0·15	+8·32	+70
Lower Burma Deltaic.	+3·94	—1·80	—0·15	+1·99	+16
Central Burma . .	+1·02	—0·59	—0·07	+0·36	+ 5
Upper Burma . .	+2·19	—0·18	—0·54	+1·47	+23
Arakan . . .	+3·53	+0·66	—0·27	+3·92	+30

(2) The rainfall of the period was in slight to considerable excess in Assam, Bengal (except the northern and central districts and Sikkim) and Orissa, due chiefly to cyclonic weather in the second half of November.

It was, on the other hand, more or less in defect in North and Central Bengal, Bihar and Chota Nagpur, the deficiency being greatest, both absolutely and relatively to the normal, in North Bihar, which only obtained 18 per cent. of its normal quantity.

The following gives data:—

Division.	Variation of rainfall from normal.				
	October.	November.	December.	Total of period, October to December.	Percentage variation from normal.
	Inches.	Inches.	Inch.	Inches.	
Eastern Bengal . .	+0·70	+3·12	—0·29	+3·53	+49
Assam Surma . .	+2·00	+2·01	—0·39	+3·62	+42
,, Hills . .	+3·90	+3·21	—0·48	+6·63	+70
,, Brahmaputra .	—0·51	+3·68	—0·32	+2·85	+50
Deltaic Bengal . .	—1·99	+2·91	—0·18	+0·74	+13
Central ,, . .	—2·12	+1·59	—0·11	—0·64	—15
North ,, . .	—2·77	+0·88	—0·05	—1·94	—40
Bengal Hills . .	—3·07	+0·48	+0·26	—2·33	—35
Orissa . . .	—2·04	+3·56	—0·31	+1·21	+16
Chota Nagpur . .	—1·66	—0·08	—0·23	—1·97	—54
South Bihar . . .	—2·22	+0·07	—0·15	—2·30	—77
North ,, . .	—2·52	+0·14	—0·10	—2·48	—82

(3) The rainfall of the period was scanty and in marked defect in the United Provinces and North-Western and Central India. The deficiency was considerable to large over the greater part of the United Provinces and Central India, due largely to the almost complete absence of rain in October.

The following gives data:—

Division.	Variation of rainfall from normal.				
	October.	November.	December.	Total of period, October to December.	Percentage variation from normal.
	Inches.	Inch.	Inch.	Inches.	
United Provinces, East	—2·11	—0·11	—0·26	—2·48	—97
South Oudh	—1·44	—0·02	—0·34	—1·80	—89
North ,,	—1·51	—0·04	—0·22	—1·77	—87
United Provinces, Central	—0·86	—0·04	—0·21	—1·11	—78
,, ,, West	—0·12	—0·01	—0·15	—0·28	—31
,, ,, East Sub-montane.	—2·40	—0·05	—0·20	—2·65	—86
,, ,, West Sub-montane.	—0·49	—0·13	+0·10	—0·52	—36
,, ,, Hills	—0·57	—0·22	+0·55	—0·24	—12
South East Punjab	—0·33	—0·03	—0·12	—0·48	—70
South ,,	—0·11	—0·06	—0·15	—0·32	—59
Central ,,	—0·32	—0·21	—0·30	—0·83	—97
Punjab Submontane	—0·22	—0·17	—0·44	—0·83	—73
Do. and North-West Frontier Province Hills	—0·71	—0·72	—0·23	—1·66	—66
North Punjab	+0·19	—0·76	—0·61	—1·18	—64
West ,,	—0·10	—0·18	—0·15	—0·43	—100
Sind	—0·03	—0·07	—0·07	—0·17	—81
Central India East	—1·33	—0·33	—0·30	—1·96	—88
Rajputana East and Central India West	0	—0·19	—0·27	—0·46	—55
West Rajputana	+0·07	—0·12	—0·10	—0·15	—47

(4) The season was throughout rainless in Baluchistan, where usually light to moderate rain falls in November and December from cold weather disturbances.

The following gives data:—

Division.	Variation of rainfall from normal.				
	October.	November.	December.	Total of period, October to December.	Percentage variation from normal.
	Inch.	Inch.	Inch.	Inches.	
Baluchistan	—0·10	—0·64	—0·98	—1·72	—100

(5) The rainfall of the period was less than usual over the whole of the Peninsula with the exception of Malabar, Mysore, the northern and central coast districts of Madras and South-Central Madras. The excess was large in Malabar, where it averaged 7·55 inches or 56 per cent. of the normal. The defect was unimportant in the southern coast districts, but increased north-westwards and was serious in the Konkan, the Central Provinces, Khandesh and the Bombay Deccan.

The following gives data for the Peninsular divisions:—

Division.	Variation of rainfall from normal.				
	October.	November.	December.	Total of period, October to December.	Percentage variation from normal.
	Inches.	Inches.	Inches.	Inches.	
Malabar	—1·17	+7·74	+0·98	+7·55	+56
Madras South Central.	—0·87	+1·63	—0·09	+0·67	+ 6
Mysore	+1·31	+0·28	—0·02	+1·57	+18
Konkan	—3·41	—0·73	—0·05	—4·19	—62
Bombay Deccan	—1·85	—1·06	—0·38	—3·29	—48
Hyderabad North	—0·04	—1·12	—0·75	—1·91	—40
Khandesh	—0·84	—0·91	—0·56	—2·31	—45
Berar	—0·43	—0·64	—0·54	—1·61	—44
Central Provinces West.	—1·73	—0·38	—0·52	—2·63	—88
Central Provinces Central.	—1·56	—0·37	—0·33	—2·26	—89
Central Provinces, East.	—0·96	—0·39	—0·30	—1·65	—58
Gujarat	—0·65	—0·18	—0·06	—0·89	—56
Kathiawar and Cutch.	—0·44	—0·32	—0·03	—0·79	—75
Madras East Coast North.	—1·55	+3·43	—0·55	+1·33	+13
Hyderabad South	—0·46	—0·54	—0·31	—1·31	—29
Madras Central.	—2·13	+0·59	+0·18	—1·36	—18
,, East Coast Central.	—4·98	+5·13	+2·36	+2·51	+13
,, East Coast South.	—3·68	+1·95	+1·66	—0·07	0
,, South	—3·19	+2·80	—1·52	—1·91	—11

The year.—The rainfall of the year for the whole of India, as determined by the method employed by Mr. Blanford (and which gives the normal annual rainfall as 41·09 inches), averaged 4·13 inches below the normal.

The average rainfall of the Indian area was very largely above normal in the cold weather, considerably above in the retreating south-west monsoon and in moderate defect in the hot weather and the south-west monsoon periods.

The following gives comparative data for the whole of India (excluding Burma and hill divisions) based on the arithmetical means of the actuals and normals for 46 rainfall divisions (irrespective of extent of area):—

Period.	Rainfall.			
	Average actual of year 1901.	Average normal of year.	Variation from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Cold weather	2·44	0·99	+1·45	+146
Hot weather	3·91	4·58	—0·67	—15
South-west monsoon	32·35	37·95	—5·60	—15
Retreating south-west monsoon	2·35	1·80	+0·55	+31
Whole year	41·05	45·32	—4·27	—9

The rainfall was practically normal in amount (*i.e.*, the variation from the normal was less than 10 per cent.) in 23 out of the 51 rainfall districts (omitting Burma) into which India is divided :—

Division.	Rainfall. Average actual of year 1901.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Eastern Bengal	94·21	89·24	+4·97	+6
Assam Brahmaputra	82·16	89·88	—7·72	—9
Deltaic Bengal	63·27	60·56	+2·71	+4
Central Do	51·02	56·13	—5·11	—9
Chota Nagpur	50·45	53·59	—3·14	—6
United Provinces, East	36·20	38·25	—2·05	—5
„ „ Central	31·13	34·31	—3·18	—9
„ „ West submontane	45·65	46·37	—0·72	—2
„ „ Hills	65·33	61·05	+4·28	+7
Punjab Submontane	29·53	30·73	—1·20	—4
Do. and North-West Frontier Province Hills.	62·36	62·54	—0·18	0
Malabar	134·18	125·52	+8·66	+7
Madras South-Central	32·22	29·56	+2·66	+9
Konkan	105·36	115·08	—9·72	—8
Bombay Deccan	33·79	36·59	—2·80	—8
Hyderabad, North	35·26	36·86	—1·60	—4
Central Provinces West	41·77	44·67	—2·90	—6
„ „ Central	55·42	51·63	+3·79	+7
„ „ East	50·90	50·08	+0·82	+2
Madras East Coast North	40·21	42·01	—1·80	—4
Hyderabad South	27·70	29·96	—2·26	—8
Madras Central	22·53	24·82	—2·29	—9
„ East Coast South	43·67	41·58	+2·09	+5

The rainfall was in excess by 10 per cent. or over in the rainfall districts for which data are given below :—

Division.	Rainfall. Average actual of year 1901.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North Punjab	25·40	21·81	+3·59	+16
Mysore	37·83	34·47	+3·36	+10
Madras East Coast, Central.	36·61	33·18	+3·43	+10
Madras South	31·52	28·57	+2·95	+10

The rainfall of the year was between 10 and 25 per cent. in defect in 14 divisions, for which comparative data are given in the following table :—

Division.	Rainfall. Average actual of year, 1901.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam Surma	116·71	134·07	—17·36	—13
„ Hills	116·38	135·41	—19·03	—14
North Bengal	79·67	96·92	—17·25	—18
Bengal Hills	98·53	131·88	—33·35	—25
Orissa	52·50	59·08	—6·58	—11
South Bihar	35·30	43·74	—8·44	—19
South Oudh	32·35	36·10	—3·75	—10
North Oudh	30·97	38·95	—7·98	—20
United Provinces East Submontane.	35·56	42·70	—7·14	—17
Central Punjab	15·64	18·87	—3·23	—1
West Punjab	7·60	8·93	—1·33	—
Khandesh	25·90	32·77	—6·87	—
Berar	36·02	40·56	—4·54	—1
Central India East	33·80	42·51	—8·71	—20

The rainfall of the year was more than 25 per cent. below the normal in the following divisions :—

Division.	Rainfall. Average actual of year, 1901.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
North Bihar	37·57	53·27	—15·70	—29
United Provinces West	19·34	26·33	—6·99	—27
South East Punjab	16·01	23·51	—7·50	—32
South Punjab	10·99	16·02	—5·12	—32
Gujarat	25·71	44·03	—18·32	—42
Kathiawar and Cutch	12·62	28·19	—15·57	—55
Sind	2·23	6·00	—3·77	—63
Baluchistan Hills	5·90	9·57	—3·67	—38
Rajputana East and Central India West.	17·51	28·20	—10·69	—38
West Rajputana	6·57	12·58	—6·01	—48

The rainfall of the year was less than three inches in amount, at thirty-one rain-gauge stations in North-Western India and Baluchistan.

The following gives data for these stations:—

Area.	Station.	Total annual rainfall.
		Inches.
Punjab	Alipur	1·32
	Shujabad	1·89
	Muridwala	2·00
	Sinánwan	2·12
	Mooltan	2·60
	Rájanpur	2·62
	Shorkot	2·63
	Muzaffargarh	2·78
	Dipalpur	2·94
Rajputana West	Jalor	1·07
	Chotan	1·99
	Dewa	2·13
	Balmer	2·52
	Ramgarh	2·75
Kathiawar	Dhrángadhra	2·98
Sind	Hála	1·07
	Sehwán	1·37
	Mehar	1·50
	Shahbandar	1·72
	Rohri	1·78
	Hyderabad	1·96
	Kurrachee	1·98
	Tatta	2·48
	Umarkot	2·64
	Jacobabad	2·68
	Jerruck	2·75
	Shikarpur	2·95
Baluchistan	Jhatput	2·06
	Nushki	2·38
	Chaman	2·74
	Temple Dera	2·87

Total rainfalls for the year exceeding two hundred inches were received at the following stations:—

Province.	Station.	Rainfall. Actual of year 1901.	Rainfall. Normal of year.
		Inches.	Inches.
Burma	Thayetchaung	205·70	?
	Yebyu	203·25	?
	Thaton	220·00	225·42
	Bilin	203·26	188·32
	Sandoway	223·44	212·60
	Ramree	205·04	178·23
	Akyab	206·14	193·56

Province.	Station.	Rainfall. Actual of year, 1901.	Rainfall. Normal of year.
		Inches.	Inches.
Bombay	Mátherán	212·65	212·89
	Malcolmpeth	266·41	267·94
	Lanoli	220·19	172·77
Madras	Peermade	244·48	189·80
	Karkala	206·35	187·57
Assam	Nemotha	218.93	202·35
	Lalakhal	247·16	264·84
	Sunamganj	231·37	209·68
	Cherra Poonji Police Station.	372·73	461·19

The following gives the heaviest falls in 24 hours exceeding 15 inches recorded during the year:—

Province.	District.	Station.	Date and month.	Rainfall during 24 hours preceding 8 A.M. of date.
				Inches.
Punjab	Simla	Barouli	21st August	16·48
Bengal	Bogra	Nowkhilla	8th September.	15·40
United Provinces of Agra and Oudh.	Gonda	Torobganj	25th September.	16·85

The following gives a statement of the variation of the mean rainfall of India (excluding Burma) during the past 27 years:—

Year.	Number of divisions. Fall, excessive.	Fall, normal.	Fall, deficient.	Rainfall. Average actual.	Average normal.	Variation from normal.	Percentage variation.
				Inches.	Inches.	Inches.	
1875	16		8	43·47	41·09	+2·38	+6
1876	6		18	36·60	41·09	−4·49	−11
1877	10		14	36·81	41·09	−4·28	−10
1878	17	1	6	47·43	41·09	+6·34	+15
1879	16	2	6	42·78	41·09	+1·69	+4
1880	13	1	10	39·53	41·09	−1·56	−4
1881	15		9	41·19	41·09	+0·10	0
1882	17	1	6	43·73	41·09	+2·64	+6
1883	11	1	12	40·97	41·09	−0·12	0
1884	12		10	42·82	41·09	+1·73	+4
1885	15		7	42·14	41·09	+1·05	+3
1886	14		8	44·11	41·09	+3·02	+7

Year.	Number of divisions.			Rainfall.			
	Fall, excessive.	Fall, normal.	Fall, deficient.	Average actual.	Average normal.	Variation from normal.	Percentage variation.
				Inches.	Inches.	Inches.	
1887	11		11	43·51	41·09	+2·42	+6
1888	10		12	39·55	41·09	—1·54	—4
1889	15		8	43·50	41·09	+2·41	+6
1890	14	1	8	41·77	41·09	+0·68	+2
1891	6		17	37·55	41·09	—3·54	—9
1892	15		8	46·18	41·09	+5·09	+12
1893	22		1	50·16	41·09	+9·07	+22
1894	17		6	47·56	41·09	+6·47	+16
1895	5		17	38·90	41·09	—2·19	—7
1896	7	2	14	36·26	41·09	—4·83	—12
1897	10	2	11	40·94	41·09	—0·15	0
1898	10	3	10	41·52	41·09	+0·43	+1
1899	6		17	29·95	41·09	—11·14	—27
1900	10		13	40·52	41·09	—0·57	—1
1901	5		18	36·96	41·09	—4·13	—10

Concluding Summary.

I.—Cold weather period, January and February, 1901.—The following table gives mean variation data of the more important meteorological elements for the cold weather period, January and February 1901 :—

Meteorological Province.	Variation from normal during cold weather period, January and February.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation of rainfall.
	"	°	°	"			Inches	
Burma Coast and Bay Islands.	+·001	+0·7	+4·2	+·056	0	+0·4	+2·22	+252
Burma Inland. . .	+·026	−0·1	+2·0				+0·67	+167
Assam . . .	+·012	+0·4	+0·7				−0·70	− 29
Bengal and Orissa .	+·023	−1·5	+1·1	−·014	0	+1·0	+0·86	+ 62
Gangetic Plain and Chota Nagpur.	+·029	−4·7	+1·8	+·054	+11	+2·3	+2·92	+234
Upper Sub-Himalayas	+·030	−4·0	+0·9	+·021	+ 7	+0·4	+1·90	+ 67
Indus Valley and North-West Rajputana.	+·024	−2·7	−1·5	+·012	+ 4	−0·4	−0·22	− 23
East Rajputana, Central India and Gujarat.	+·021	−3·8	−0·5	−·013	+ 3	+0·2	+0·66	+143
Deccan . . .	+·009	−2·7	+1·4	+·016	+ 4	+1·5	+1·68	+343
West Coast. , .	+·005	−0·5	+1·5	−·033	− 4	+0·7	+0·60	+154
South India . .	+·001	+1·3	+3·9	+·081	+ 4	+1·6	+2·35	+313

The pressure variations were everywhere positive. They were slight in amount in South India and over the Burma Coast and the south of the Bay, and moderate over the West Coast and the Deccan and in Assam and considerable to large elsewhere. The excess was greatest in the Upper Sub-Himalayas, the Gangetic Plain and Chota Nagpur.

The mean maximum temperature of the period was in large defect over the areas where the excess of pressure was greatest, namely, the Gangetic Plain and Chota Nagpur, and the Upper Sub-Himalayas, where it equalled or exceeded 4°. But the defect was only slightly less (3°·8) in East Rajputana, Central India and Gujarat, and was moderate to considerable in the Deccan, the Indus Valley and North-West Rajputana, and Bengal and Orissa. In South India and on the Burma Coast the areas where the pressure was practically normal, the maximum temperature was in slight to moderate excess. Elsewhere the variations of the maximum temperature from the normal were slight. The mean minimum temperature of the period was in excess everywhere, except in the Indus Valley and North-West Rajputana, where it was in moderate, and in East Rajputana, Central India and Gujarat, where it was in slight, defect. The excess was greatest in South India and the Burma Coast and Bay Islands, where it ranged from 3°·9 to 4°·2. Elsewhere the variations were only moderate in amount. The mean temperature of the period was hence in moderate excess in South India and on the Burma Coast, and in moderate defect in the Indus Valley, Rajputana, Central India and Gujarat; in the Gangetic Plain and Chota Nagpur and the Upper Sub-Himalayas the defect was slight to moderate. The mean temperature of the period was in defect everywhere, except in Assam, Burma, South India and the West Coast. In Assam, Bengal and Orissa, the Deccan and on the West Coast, however, the variations were only slight.

The amount of aqueous vapour in the air was much greater than usual in South India, the Burma Coast and Bay Islands, the Gangetic Plain and Chota Nagpur, and in moderate defect on the West Coast. Elsewhere the variations from normal were small and of little importance. The humidity was in slight to moderate excess everywhere, except on the West Coast, where it was in slight defect. The excess was greatest in the Gangetic Plain and Chota Nagpur, where it was 11, and in the Upper-Sub Himalayas, where it was 7. In both areas the excessive humidity was partly due to excess of aqueous vapour and partly to lower temperature than usual. The period was cloudier than usual everywhere, except in the Indus Valley and North-West Rajputana, where the cloud amount was in slight defect. The excess was very marked in the area of excessive humidity, in the Gangetic Plain and Chota Nagpur and was also considerable over the Deccan and in South India.

The rainfall of the period was in large excess over the whole of the Empire, except Assam, the Indus Valley and North-West Rajputana, where, however, it was in only slight to moderate defect. It was unusually heavy over the Deccan and in South India, where it was more than four times the normal amount. It was from three to three-and-a-half times as heavy as usual on the Burma coast and in the Gangetic Plain and Chota Nagpur, and about two-and-a-half times as heavy as usual in the interior of Burma, in East Rajputana, Central India and Gujarat and on the West Coast. Elsewhere the variations from normal were comparatively unimportant.

The chief features of the cold weather period were, therefore, the unusually high pressures and low temperatures which prevailed in Upper India and the unusually widespread and heavy rainfall, especially over the Deccan and the south of the Peninsula and in Burma, the last, a feature which is to be associated with the eastward passage of a series of storms along a much more southerly track than usual. They originated for the most part off the North Bombay coast, or in the Gulf of Cambay, and moved eastwards over the head of the Peninsula and in some cases passed into the Bay of Bengal and affected the weather over Burma.

A reference to the monthly weather summaries for the year 1901 will show that there was a considerable resemblance between the cold weather period of that year and those of the years 1893 and 1894, especially the former. These periods were marked by a considerable deficiency of temperature and by increased humidity, cloud and rainfall in North-Western India. The following gives com-

parative data for the cold weather periods of the years 1892 to 1901 for the area, including the Punjab, Rajputana, the United Provinces and Bihar :—

Cold weather period of	Variation from normal in North-Western India and Bihar of			
	Temperature.	Humidity.	Cloud.	Rainfall.
	°			Inches.
1901	—1·5	+ 6	+0·5	+ 1·38
1900	+0·7	— 4	+0·7	+0·59
1899	—0·5	— 6	—0·9	—0·51
1898	+1·1	— 1	—1·0	+1·22
1897	+1·2	— 2	—0·4	—0·12
1896	+2·0	— 3	—0·5	—0·72
1895	+0·8	+ 5	—0·2	+0·43
1894	+0·6	+10	+1·3	+0·92
1893	—4·2	+11	+1·4	+2·04
1892	+2·5	— 2	—0·2	—0·37

The variations of the temperature and humidity conditions in the cold weather of 1900-1901 were determined by the distribution of rainfall during the period and hence by the distribution and character of the cold weather storms of December, 1900, and January and February, 1901.

The chief characteristics of the storms of that period were as follows :—

(1) The number of depressions and cold weather disturbances was larger than usual both in January and February. Seven appeared in January and seven in February.

(2) The disturbances were (with the exception of one storm in January and one in February) feeble and ill-defined and did not give rise to deep secondary depressions in the Punjab.

(3) The precipitation accompanying these disturbances in the Himalayan areas fell as snow to lower levels than usual.

(4) The precipitation accompanying the disturbances was much more general than usual over the whole country, North Bombay being the only area where the precipitation was light.

The chief features of the cold weather storms of 1900-1901 were fairly persistent throughout the greater part of the season. An examination of the pressure and other conditions in India and neighbouring parts of the monsoon area seems to indicate that they were mainly related to the prevalence of unusually high pressures over the Persian region and particularly in the west and north-west of the Arabian Sea, pressure being at the same time about normal or in slight defect in the east of the Arabian Sea and on the North Bombay coast. Winds were consequently more northerly than usual in the centre and north-east of the Arabian Sea, and more southerly than usual on the Konkan Coast and over the Deccan. There was thus a tendency of the establishment of an irregularly cyclonic circulation off the North Bombay coast and in the neighbourhood of the Gulf of Cambay, which under favourable circumstances developed into a depression with an irregular cyclonic circulation round it. In this way originated three of the seven depressions in January and two of the seven depressions in February.

It may be noted that, as far as can be judged from the available data, pressure was abnormally high throughout the cold weather period, and especially in February, not only in North India and Persia, but also in Trans-Caspia and in the Caspian region, as indicated by the data for Baku and Tashkent given below :—

Station.	Variation from normal of the mean pressure for		
	January.	February.	Mean of period.
	"	"	"
Baku	+·028	+·116	+·072
Tashkent	+·112	+·272	+·192

The following table gives vertical pressure anomalies for the cold weather period of 1900-1901 :—

Pair of Stations.	Vertical pressure anomaly.						
	September, 1900.	October, 1900.	November, 1900.	December, 1900.	January, 1901.	February, 1901.	Mean of period November, 1900, to February, 1901.
	"	"	"	"	"	"	"
Leh and Lahore	—·014	—·018	+·065	—·034	—·068	+·013	—·006
Quetta and Jacobabad	+·011	—·011	+·032	—·039	—·024	+·001	—·008
Murree and Peshawar	+·013	—·004	+·048	—·001	—·017	+·006	+·009
Simla and Ludhjana	+·018?	+·013?	+·035	—·019	—·053	—·033	—·018
Chakrata and Roorkee	0	+·002	+·039	+·001	—·042	—·025	—·007
Ranikhet and Bareilly	+·001	+·005	+·038	+·019	—·026	—·002	+·007
Darjeeling and Dhubri	—·023	+·012	+·022	+·029	—·008	+·033	+·017
Mount Abu and Deesa	—·019	—·024	—·005	—·019	—·040	—·041	—·026
Pachmarhi and Hoshangabad	—·022	—·025	—·011	—·003	?	?	?
Wellington and Coimbatore	—·004	—·006	—·013	—·006	+·012	+·009	+·001

The following table gives the mean vertical pressure anomalies for the cold weather periods, November to

February of the present year, as well as of the previous eight years for comparison :—

Pair of Stations.	Vertical pressure anomaly.								
	1900-1901.	1899-1900.	1898-1899.	1897-1898.	1896-1897.	1895-1896.	1894-1895.	1893-1894.	1892-1893.
	"	"	"	"	"	"	"	"	"
Leh and Lahore.	—·006	+·008	+·038	+·040	+·013	+·041	+·009	—·004	—·046
Quetta and Jacobabad.	—·008	+·019	+·027	+·050	—·007	+·019	+·001	+·006	—·007
Murree and Peshawar.	+·009	+·040	—·012?	+·041	+·006	+·022	—·006	?	—·034
Simla and Ludhiana.	—·018	+·012	+·005	+·019	—·003	+·012	—·017	—·015	—·049
Chakrata and Roorkee.	—·007	+·022	+·019	+·028	+·023	+·030	+·010	—·010	—·022
Ranikhet and Bareilly.	+·007	+·023	+·011	+·018	+·021	+·025	+·003	+·011	+·013
Darjeeling and Dhubri.	+·017	+·004	—·010	?	+·004	+·007	+·001	+·017	—·008
Mount Abu and Deesa.	—·026	—·008	—·006	—·002	—·008	+·005	—·007	+·003	?
Pachmarhi and Hoshangabad.	?	—·005	—·015	—·017	+·013	?	+·013	?	+·005

The above shows that the character of the vertical pressure anomalies changed very considerably in the course of the cold weather period of 1900-1901. They were large and positive in November, but by December had changed to negative at four out of the seven pairs of stations in Northern India, the negative anomalies being moderate to large at the stations in the extreme north and west of the Punjab. The diminution between November and December of the vertical pressure anomalies in North-East India was very slight, but in January the diminution was very marked everywhere, except in Baluchistan. In January the vertical pressure anomalies were negative everywhere, except in South India, the negative values being large at the stations in the north and east of the Punjab, as well as at Mount Abu. In February there was a general recovery, which was most marked at the Leh and Lahore pair of stations, and, in consequence, the anomalies were positive, although slight, at all the Himalayan pairs of stations, except Simla, Chakrata and Ranikhet, where they were still negative, but only slight to moderate in amount.

On the mean of the period, November 1900 to February 1901, these large changes in the values of the anomalies practically counterbalanced each other, with the result that the vertical pressure anomalies were everywhere slight in amount, the greatest negative variations being —·026″ at Mount Abu and —·018″ at Simla, and the greatest positive +·017″at Darjeeling. The variations in the vertical anomalies from month to month during the cold weather period of 1900-1901, however, make it difficult to compare the conditions obtaining then with those of other years. In the year 1892-1893, which closely resembled 1900-1901, the vertical pressure anomalies showed, on the mean of the period, moderate to large negative values at the stations in the north and north-east of the Punjab. An examination of the data, however, shows that the low temperatures and excessive rainfall and humidity in 1893 were mainly due to the advance of an unusually large number of moderately severe storms of the ordinary cold weather type, which originated for the most part in the Persian region and pursued the normal track of such storms, giving very general precipitation over the whole of Upper India. In 1900-1901, on the other hand, the storms were for the most part feeble and, although the accompanying precipitation was general and copious, this was probably due to the fact that in the unusually southerly track of the storms the cyclonic circulation drew in damp winds from the adjacent sea areas and carried over the central parts of the country winds much more fully charged with moisture than usual.

An examination of the Indian monsoon area charts and of the charts issued by the Russian Meteorological Office indicates the general conditions obtaining in the areas to the west and north-west of India during the inception of the storms of the period.

The following gives a list of the more important cold weather storms of 1900-1901 and of the conditions obtaining in South-East and South Europe during their formation :—

Date and character of storm.	Area of formation.	Weather conditions in East South-East, and South Europe prior to and during the formation of the storm, and in the case of locally formed storms in India.
Feeble cold weather storm of the 1st January in Arabia and Persia, 2nd in Baluchistan and 3rd and 4th in Northern India.	North-East Arabia	A depression was moving in a south-easterly direction over the centre of the Mediterranean and pressure had fallen rapidly in South-East Europe and in Asia Minor.
Feeble cold weather storm of the 31st December to the 5th January.	North-east of the Arabian Sea and the Gulf of Cambay.	Pressure was relatively high in the west of the Arabian Sea and relatively low off the North Bombay Coast.
Feeble cold weather storm of the 6th to the 9th January.	Ditto	Ditto.
Cold weather storm of the 9th to the 11th January in Persia, the 12th in Baluchistan and the 13th and 14th in Northern India.	North Arabia and South-West Persia.	High pressure conditions obtained over the greater part of Europe, but pressure was about normal in South-East Europe.
Feeble cold weather storm of the 16th to the 19th January.	North-east of the Arabian Sea and the Gulf of Cambay.	Pressure was relatively high in the west of the Arabian Sea and relatively low in the north-east of the Arabian Sea and in the Gulf of Cambay.
Feeble cold weather storm of the 15th to the 18th in Persia and Baluchistan and the 19th to the 21st in Northern India.	North Arabia and South-West Persia.	Probably originated during a period of falling pressure in Transcaspia due to the southward movement of a low pressure area over the east of Europe.
Feeble cold weather storm of the 24th to the 26th January in Baluchistan and Sind.	Probably Baluchistan Plateau or Upper Sind.	Pressure had been falling rapidly during the 22nd, 23rd and 24th in East Russia and West Siberia, in consequence of the south-eastward movement of a deep depression from Scandinavia to the south-east of Russia in Europe. On the 23rd pressure was very uniform to the west and north-west of India, where on the 24th, with the continued fall of pressure, the feeble depression seems to have developed.

Date and character of storm.	Area of formation.	Weather conditions in East, South-East, and South Europe prior to and during the formation of the storm, and in the case of locally formed storms in India.
Cold weather storm of the 1st to the 8th February, in Gujarat, and Central and Northern India.	North-east of the Arabian Sea off the North Bombay coast.	Pressure was relatively high in the west of the Arabian Sea and relatively low off the North Bombay coast.
Cold weather storm of the 8th to the 16th February.	Ditto .	Ditto.
Feeble cold weather depression of the 11th and 12th February in North-West India.	Sind and the South-West Punjab.	It originated during a period of falling pressure in North-West India and in the regions to the west and north-west of India.
Cold weather storm of the 15th to the 20th February, in the Peninsula and Northern India.	Bombay Deccan . .	
Feeble cold weather depression of the 20th and 21st February in Sind and the South-West Punjab.	Sind and the Baluchistan Plateau.	Pressure was very uniform in that area on the 17th.
Cold weather storm of the 22nd February in North-Western India.	Ditto .	This depression was probably the local result of a large and very extensive downward movement of pressure most marked in West Siberia, where the fall exceeded three quarters of an inch.
Feeble cold weather depression of the 27th and 28th February.	Ditto .	A depression which appeared in the Western Mediterranean on the 24th passed eastwards during the following day, being central over the south of Greece on the 25th and to the north of the Caucasus on the 26th. It thereafter seems to have passed in a south-easterly direction into Transcaspia, and to have been the main factor in causing the very rapid fall of pressure (about a quarter of an inch) in that area on the 27th. There are no data to show that the depression passed into India, or even entered Afghanistan, but it is very probable that the rapid fall of pressure in India on that date was a far off result of the advance of the storm. The changes in India only resulted in reducing the pressure to normal, pressure having previously been in very large excess, and no definite or well-marked depression developed in the Indian region.

The preceding data indicate that the cold weather storms of 1900-1901 were unusually numerous, but, on the whole, feebler than usual. None of them seem to have been the direct continuation of storms in Europe or Central Asia, but the development of a large number, if not all, of those which originated in the land areas to the west of India seems to have been to some extent conditioned by actions taking place in South-East Europe or Transcaspia. A comparison of the data given in the Russian charts with the data for Baghdad shows an almost complete agreement in the daily variations of pressure in the Black and Caspian Sea regions and the variations at Baghdad, and also a general agreement between the actual values of the pressure in the two regions. An examination of the data shows that the depressions which advanced eastwards from the Arabian or Persian areas to India originated in almost every case during periods of low pressure in South-East Europe. The chief exception was the storm of the 9th to the 11th January in Arabia and Persia which showed in India on the 13th and 14th January. But even in this case there are some reasons for supposing that the fall was related to the southward movement of a low pressure area from the Ural region to Transcaspia. In nearly every case the storms which advanced eastwards from the land areas in the west were feeble, little more than mere waves of low pressure which could be only faintly traced in the charts, but which generally developed somewhat on entering the Indian region, in one or two cases giving rise to well-marked depressions in the Punjab. A remarkable feature of the pressure conditions of the period was the extremely high pressures which prevailed not only over India, but in the Central Asian region, a feature which was especially marked in February. It is possible that with this is to be associated the unusually feeble character of the storms of the period.

A second feature of the depressions of the period, which may be noted here, was the origin of a large number of the storms in the Gulf of Cambay and the part of the Arabian Sea off the North Bombay coast. An examination of the charts seems to indicate that the initiation of this class of storms was conditioned by the prevalence of unusually high pressures over the centre and west of the Arabian Sea, with relatively low pressures in the region of the Gulf of Cambay, while at the same time pressure was relatively high over the centre of the Peninsula. With this distribution of pressure the isobars were much more tilted to the north than usual in the Arabian Sea, and on entering the the land area, cut sharply down in a south-easterly direction. Consequently, the winds in the centre of the Arabian Sea were much more northerly than usual, while in the centre of the Peninsula they were unusually southerly, and hence under favourable conditions, such as a general fall of pressure in Western India, an irregularly cyclonic whirl was originated off the North Bombay coast. It may be remarked that the abnormal features of the pressure distribution of the period favoured the development of this class of storms, three occurring in January and two in February. The tracks of these storms lay, generally, over the head of the Peninsula, *i.e.*, farther south than usual. They were thus able to draw in moist winds from the Bay more freely than storms following the normal course, and hence gave precipitation to regions which ordinarily lie outside the influence of cold weather storms. In consequence, the rainfall of the period was unusually widespread and general, the only area of deficient rainfall being the place of origin of the storms and the adjacent land areas, *i.e.*, North Bombay. The cool northerly winds, which followed in the rear of the storms, hence extended farther south than usual, and it is possible that to these is in part due the unusually cool weather which held over the head of the Peninsula and the Deccan during the period.

The following tables, givingthe available rainfall data for the Persian region and for the regions to the north and

west of India, show that in the year under discussion the rainfall was very light at the stations in Persia (except Jask) and at Kabul and Kashgar, but was in excess in Baluchistan and in Northern India. This confirms what has been already indicated, namely, that the precipitation within India was due to relatively local, and not to general, causes. In point of fact, the rainfall of the period in India was mainly conditioned by the movements of the storms which originated in North Bombay :—

Station or Province.	RAINFALL OF PERIOD, DECEMBER TO FEBRUARY.								
	Variation from normal in								
	Normal of period.	1891-92.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1901.	1901-1902.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baghdad	6·03		+0·51	−2·78	−2·10	−4·50	−3·28	−4·10	−4·42
Teheran	3·49		−0·68	+0·98	−1·03	−0·58	−0·36	−2·03	−0·18
Ispahan	0·60		−0·15	+0·08	+1·07	+0·09	+0·71	−0·55	+0·37
Bushire	9·61	−5·89	−6·33	−3·49	−6·86	−4·30	+2·84	−2·53	−6·14
Jask	2·47		−1·34	−0·80	−2·36	−1·97	+3·54	+0·93	−1·95
Quetta	5·05	−3·21	+0·34	−0·77	−2·30	−2·61	+0·20	+1·38	−4·94
Kashgar	0·69		−0·74	−0·20	−0·82	−0·82	+0·22	−0·59	−0·55
Kalat	5·11		...	−2·30	−3·37	−2·93	−2·70	+2·50	2·68
Chaman	4·63		−2·26	−0·05	−3·03	−1·39	+1·54	+1·21	−3·64
Kabul	1·85		−1·85	+4·95	−1·47	−1·85	−2·10	−1·80	−1·79
Punjab	2·22	−1·47	−0·59	+0·17	+7·63	−0·83	−0·63	+2·02	−2·21
Rajputana	0·78		−0·38	−0·27	+0·24	−0·32	−0·68	+0·56	−0·56
Sind	0·82	−0·63	−0·53	−0·65	−0·20	−0·78	+1·06	+0·15	−0·60
United Provinces of Agra and Oudh	1·52	−0·43	−1·05	+0·21	−1·26	−0·26	−0·79	+3·39	−1·22

Station.	RAINFALL OF PERIOD, OCTOBER TO MARCH.								
	Variation from normal in								
	Normal of period.	1891-92.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1901.	1901-1902.
	Inches.	Incl ed	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baghdad	9·03		+2·61	5·03	−3·18	−6·25	−4·07	−5·08	−5·27
Teheran	7·73		−0·52	+0·99	−0·67	−3·33	−2·73	−3·01	−0·79
Ispahan	3·27	−4·56	+0·85	+1·73	+0·26	−1·65	−0·24	−0·80	−0·10
Bushire	13·30		−7·67	+4·49	−5·30	−4·76	+0·91	−2·60	−0·68
Jask	4·38	−4·15	−0·73	+2·11	−4·91	−2·96	+2·43	+0·26	−3·58
Quetta	7·09		+1·74	+0·45	−0·76	−2·49	−0·66	+2·16	−6·58
Kashgar	1·05		−0·61	+0·50	?	−1·18	+0·06	−0·95	−0·86
Kalat	7·08		?	+3·08	−3·07	−4·67	−3·40	+2·76	−3·79
Chaman	6·59		−2·39	+0·03	−2·96	−2·17	+0·18	+1·49	−5·38
Kabul	8·73		+2·27	+2·60	−4·30	−4·58	−3·63	−3·45	−5·31

The character of the rainfall during the cold weather of 1901—1902, for which data are also given in the table, appears to indicate that the conditions giving abnormally light rainfall in Southern Asia during the past seven years still persist, and that the abundant rainfall in India during 1900-1901 was not an indication of the disappearance of the unfavourable conditions.

II.—Hot weather period, March to May, 1901. —The following table gives the mean variations of the more important meteorological elements in the eleven meteorological provinces of India for the hot weather period, March to May, 1901 :—

Meteorological Province.	Variation from normal during hot weather period, March to May, 1901.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation of rainfall.
	″	°	°	″			Inches	
Burma Coast and Bay Islands.	−·002	+0·1	+1·8	+·006	−2	−0·1	−0·29	−2
Burma, Inland	+·026	+0·7	+0·7				+3·60	+54
Assam	+·017	+1·8	−0·7				−12·17	−42
Bengal and Orissa	+·020	+1·5	−0·4	−·034	−5	−0·1	−3·51	−31
Gangetic Plain and Chota Nagpur.	+·022	−0·7	−0·5	−·004	0	+0·2	+0·16	+6
Upper Sub-Himalayas.	+·026	−1·6	−0·6	−·004	+1	−0·3	+0·15	+6
Indus Valley and North-West Rajputana.	+·018	+0·9	+0·5	−·001	−2	−0·2	+1·12	+87
East Rajputana, Central India and Gujarat.	+·015	+0·4	+0·9	−·049	−4	−0·1	−0·13	−20
Deccan	+·021	−1·0	+0·9	+·036	+4	+0·9	+1·14	+59
West Coast	+·006	+0·9	+0·9	−·003	−3	−0·2	−0·24	−3
South India	+·018	−0·5	+0·5	+·003	0	+1·0	−0·73	−17

The above table indicates that, on the average of the period, pressure was in slight to moderate excess, except in the Burma Coast area and Bay Islands, where it was in very slight defect; temperature, in slight to moderate excess, except in the Gangetic Plain and Chota Nagpur and the Upper Sub-Himalayas, where it was in moderate defect; the amount of aqueous vapour, the humidity and the cloud in general defect, except in the Deccan, where they were in moderate excess; while the variations of rainfall were irregular, the precipitation being in large excess in Burma Inland, the Deccan, the Indus Valley and North-West Rajputana, in moderate defect in Assam, Bengal and Orissa, and about normal elsewhere.

The mean 8 A.M. pressure of the Indian land area was ·045″ in excess in March, ·004″ in defect in April, and ·012″ in excess in May, and hence averaged ·018″ in excess for the whole of the hot weather period. With the abnormally high pressures which held during March were probably to be associated the unusual feebleness of the storms or depressions of the month, and the light rainfall over parts of Upper India. It may be noted that at Tashkent pressure was, on the mean of the month of March, about ·200″ in excess, which would seem to indicate that the high pressures which were a feature of the distribution in India were still more marked in Central Asia.

In April pressure fell below normal, but rose again to slight excess in May, and hence the excess of pressure which showed in the mean of the period was due almost entirely to the very large excess which held in March. The chief features of the period were (1) a storm of

unusual character which gave showers in the North Punjab and heavy snow to Chitral and the districts to the north of India at the end of the second week of April, and was followed by an intense cool wave, (2) a cyclonic storm which formed in the south-east of the Arabian Sea in the last week of April and afterwards marched in a north-westerly direction to near the mouth of the Persian Gulf, where re-curving it passed in a north-easterly direction over the the Mekran Coast and thence through Baluchistan to the Punjab; the storm gave moderate rain to the west of the Peninsula in the earlier stages of its course and heavy rain in the north and north-east of the Punjab and severe snowstorms in North Kashmir and Chitral in the last stages of its existence in the first week of May, after which a cool wave of unusual intensity spread over Northern India giving temperatures from 15° to 20° below normal in Baluchistan and the North Punjab.

The variations of the mean temperature conditions of the month of May were generally small and of little importance. The hot weather conditions of May gave rise to the following abnormal features of the pressure distribution in that month:—

(1) General to very slight excess of pressure, relatively to the mean condition, over the Peninsula, most marked on the Konkan Coast.

(2) Slight to moderate local defect of pressure in Kathiawar, Upper Sind and the south-west of the Punjab, the east of the Gangetic Plain and in Lower Burma.

(3) Slight to moderate excess of pressure at the level of the hill stations, as compared with the neighbouring plains.

The following table gives comparative data of the month of May for 1901, and also for fourteen years which were in the great majority of cases characterized by increased temperature and decreased pressure over the Indian area:—

Month and Year.	Variation from normal of		
	Mean pressure of month (mean of 10 and 16 hours).	Mean temperature of month.	Mean aqueous vapour pressure of month.
	″	°	″
May 1879	—·045	+1·3	—·010
„ 1880	—·022	+0·2	—·01
„ 1881	+·002	+0·1	0
„ 1882	+·006	−0·2	—·004
„ 1885	+·062	—2·1	—·022
„ 1890	—·022	+0·6	−·011
„ 1892	—·027	+1·8	—·002
„ 1894	—·023	+1·5	—·011
„ 1895	—·007	+2·4	+·027
„ 1896	+·013	+2·3	—·005
„ 1897	—·004	+1·7	—·001
„ 1898	—·008	+0·6	—·015
„ 1899	—·019	+0·8	+·033
„ 1900	+·056	+0·8	—·014
„ 1901	+·009	+0·3	+·002

The preceding data show that increased temperature in May generally accompanies decreased pressure. The relation is not simple or direct, as there is no fixed relation between the two variations. In May, 1901, both temperature and pressure were in slight excess.

The following gives mean temperature variation data of Northern India (including the Punjab, Upper Sind, the United Provinces, Bihar and Rajputana) for the month of May of fifteen years resembling May, 1901, in their more important features:—

Month and Year.	Variation of mean temperature in Northern India.	Area of greatest variation.	Amount of greatest variation.
	°		°
May 1878	—4·2	North Bihar	+0·3
„ 1879	+4·0	United Provinces of Agra and Oudh.	+5·0
„ 1880	+2·0	South Punjab	+5·6
„ 1881	+0·8	Do.	+2·9
„ 1882	—0·5	North Punjab	+2·1
„ 1885	—4·6	Bihar	+1·0
„ 1890	+1·5	Punjab	+2·5
„ 1892	+3·0	West Punjab	+5·5
„ 1894	+3·0	Chota Nagpur	+5·0
„ 1895	+4·0	Punjab	+6·0
„ 1896	+3·1	Do.	+4·8
„ 1897	+3·6	North-West Rajputana	+5·5
„ 1898	+0·8	Assam (Surma)	+3·6
„ 1899	+3·3	Punjab (Central)	+6·3
„ 1900	+0·3	Do.	+2·5
„ 1901	+0·7	United Provinces, Central	+2·8

The data of the preceding table show that the temperature conditions in North-Western India of May, 1881, 1882, 1890, 1898, 1900 and 1901 were practically normal. In each of the months of May, 1879, 1880, 1892, 1894, 1895, 1896, 1897 and 1899 temperature was considerably above the normal, due largely, if not solely, to deficient precipitation in the cold weather period over the plains and adjacent mountain areas of Northern India. In each of these months, except that of May, 1896, the mean pressure of the Indian area was in defect, the deficiency averaging ·025″ for the first five years, and almost identical in amount with this in four out of these five years.

Excessive temperature in the month of May generally gives rise to a larger diminution of pressure over the Indian area than that normal to the month, and hence to a deficiency of pressure as compared with the normal. The decrease of pressure is chiefly, if not solely, a temperature effect. This is confirmed by the fact that in each of these months (*viz.*, May, 1879, 1880, 1899, 1892, 1894, 1895,

1896, 1897 and 1899) pressure at the level of the hill stations was in large relative excess, or the vertical pressure anomalies were positive and considerable to large in amount. On the other hand, in years when the temperature variation is small, as in 1898, the vertical anomalies are small, and also frequently somewhat irregular at the hill stations in Northern India. This is established by the following data for six pairs of stations:—

Pair of Stations.	Vertical pressure anomaly in May.											
	1878.	1879.	1880.	1890.	1892.	1894.	1895.	1896.	1897.	1898.	1899.	1901.
	"	"	"	"	"	"	"	"	"	"	"	"
Quetta and Jacobabad	?	?	?	+·006	+·050	+·037	+·063	+·046	+·050	+·012	+·043	+·036
Leh and Lahore	—·052	?	+·069	+·063	+·125	+·082	+·101	+·085	?	+·003	+·075	+·003
Murree and Rawalpindi	+·011	+·040	+·038	+·041	+·035	+·028	+·057	?	+·017	+·001	+·033	+·006
Simla and Ludhiana	—·025	?	?	+·033	+·049	+·042	+·060	+·050	+·054	+·009	+·047	+·020
Chakrata and Roorkee	—·052	+·044	+·015	+·022	+·040	+·035	+·045	+·038	+·058	+·025	+·045	+·020
Darjeeling and Calcutta	—·039	+·032	+·007	+·002	+·003	+·023	+·033	+·011	+·028	+·015	—·005	+·021
Mean	—·031	+·039	+·032	+·028	+·050	+·041	+·060	+·046	+·041	+·011	+·040	+·018

These conditions in May 1901 accompanied unusually late and somewhat heavy snowfall in April and May. Similar years of late and heavy snowfall are 1898, 1885 and 1878. The following gives the variations of the mean pressure of the Indian area from the normal during the first five months of these years and of 1901 for comparison:—

Year.	Variation of mean pressure of the Indian area from the normal in				
	January.	February.	March.	April.	May.
	"	"	"	"	"
1878	+·030	+·033	+·044	+·037	+·082
1885	+·039	—·013	+·022	+·018	+·068
1898	+·017	—·077	—·013	—·017	—·009
1901	+·011	+·020	+·045	—·004	+·012

The years 1878 and 1885 were characterized by excessive as well as prolonged snowfall and were associated with a considerable to large excess of pressure throughout.

In the years 1898 and 1901 the snowfall was moderate in the early part of the winter, and, although larger than usual in April and May, it was not excessive, as in 1878 and 1885. This is shown very clearly by the temperature variations of the Punjab and United Provinces for the months of April and May:—

Year.	Punjab.		United Provinces of Agra and Oudh.	
	April.	May.	April.	May.
	°	°	°	°
1878	—0·9	—4·3	—0·6	—4·6
1885	—3·1	—8·1	—1·0	—3·6
1898	+4·8	+0·2	+2·5	+0·7
1901	—2·7	—0·3	—1·7	+0·4

The statements of the snowfall in April and May received from district officers, show that the weather was unusually disturbed in April and the first fortnight of May, so that at the end of May the accumulation of snow probably exceeded the normal to a slight or moderate extent in Kashmir and Chitral and the areas to the north. But the snowfall melted rapidly during the hot weather of the last fortnight of May.

The more important features of the hot weather period were as follows:—

(1) Large excess of pressure in March, which, however, entirely disappeared in April and was replaced by a slight defect, while there was a slight recovery in May.

(2) Slightly higher temperatures than usual in March (except in Chota Nagpur and the eastern districts of the Peninsula), lower temperatures than usual in April in Northern India, and slightly excess temperatures in May, especially in Rajputana and Upper Sind, while temperature was in local defect in the North and Central Punjab.

(3) More frequent nor'westers and hailstorms than usual and the occurrence of a severe cyclonic storm in the south-east of the Arabian Sea in the fourth week of April and its subsequent advance by a curved path into the Punjab.

The following table gives vertical pressure anomalies for each month of the hot weather period of 1901 in Northern India, determined from the variation data of eight pairs of stations. It will be seen that the vertical pressure anomalies were positive in the extreme north-west of India in March, but generally negative elsewhere. In April they were generally negative, the chief exception being Quetta, where the vertical pressure anomaly was positive and moderate in amount. The chief change in this month was the large decrease in the extreme north and west of India, the changes at Quetta, Murree and Leh being —·025″, —·037″ and —·067″, respectively. In May there was a moderate to large increase at most pairs of stations, the greatest changes being +·030″, +·026″ and +·021″ at Leh, Chakrata and Simla, respectively. Consequently the vertical anomalies were in May positive at all stations

in the Himalayas, except Murree, where they were negative but very slight.

Pair of Stations.	Vertical pressure anomaly.			
	March.	April.	May.	Mean of period.
	"	"	"	"
Quetta and Jacobabad	+·049	+·024	+·036	+·036
Leh and Lahore	+·034	—·033	+·003	+·001
Murree and Peshawar	+·024	—·013	—·003	+·003
Simla and Ludhiana	—·008	—·001	+·020	+·004
Chakrata and Roorkee	— 025	—·006	+·020	—·004
Ranikhet and Bareilly	—·010	+·010	+·012	+·004
Darjeeling and Dhubri	+·005	+·016	+·032	+·018
Mount Abu and Deesa	0?	—·005	—·019	—·008?

The highest temperatures of the year were generally registered later than usual, in consequence of the protracted dry hot weather in June and the first half of July caused by the delay in the advance of the monsoon currents over North-Western India. The following gives the absolute maxima temperatures exceeding 115° registered in India during the hot weather of 1901 :—

Area.	Station.	Highest maximum temperature recorded during the year.	Date on which recorded.
		°	
Punjab	Mooltan	119·5	5th and 6th July.
	Montgomery	119·5	6th July.
	Sialkot	119·0	21st June.
	D. I. Khan	118·7	6th July.
	Khushab	118·4	6th July.
	Lahore	118·1	20th June, 5th and 6th July.
	Peshawar	117·0	6th July.
	Ludhiana	116·8	13th June.
	Sirsa	116·8	12th June and 5th July.
	Rawalpindi	116·0	6th July.
Sind	Jacobabad	126·0	6th July.
	Hyderabad	120·7	11th June.
	Kurrachee	116·4	25th May.
Rajputana	Pachpadra	121·0	11th June.
	Jodhpur	118·3	11th June.
	Kotah	117·1	31st May and 11th June.
	Deesa	117·1	11th June.
	Bikaner	116·9	5th July.
	Jaipur	116·2	5th July.

The meteorology of India during the hot weather of 1901 was determined in part by the distribution of the cold weather snowfall in the Himalayan area and in part by meteorological actions and conditions which gave abnormal and late snowfall over the greater part of the Western Himalayas during the month of April and the first half of May. The abnormal snowfall was heaviest in Chitral and North Kashmir.

The cold weather or winter snowfall was generally below the normal in the Western Himalayas and Afghanistan Mountains. The extent of the snow clad surface was less than usual at the beginning of the winter and was probably about normal at the end of March. The disturbances in April and May gave a moderate and late general fall of snow in the Western Himalayas, but the snow accumulation at the end of May was about the normal. The general character of the weather in Northern India in March was such as is invariably associated with deficient winter precipitation in the Western Himalayas, and the peculiar features of pressure and temperature in North-Western India in April and May were those associated with moderate late snow in the same region.

The larger features of the hot weather period were hence directly related to the snowfall of the previous cold weather season and to that of April and the first half of May in the North-Western Himalayas.

With the exception of the severe disturbance which affected the extreme north-west of the country during the first week of May, the weather was less disturbed than usual during the month. Thunderstorms were lighter and less frequent than usual in North-East India and the rainfall of the month was in places only about half the normal amount. The defect was particularly marked in Assam and Eastern Bengal, for which the following gives data :—

Area.	Rainfall.			
	Average actual, May, 1901.	Average normal, May.	Variation of actual from normal, May, 1901.	Percentage variation, May, 1901.
	"	"	"	
Eastern Bengal	5·71	10·36	—4·65	—45
Assam (Surma)	8·03	18·80	—10·77	—57
Assam (Hills)	8·19	15·15	—6·96	—46
Assam (Brahmaputra)	6.56	12·20	—5·64	—46

It may be noted that although pressure fell generally in the Indian region in April, it fell only slightly during April and May in the Central Asian region, as indicated by Tashkent. The following gives data for March, April and May for India and the Central Asian region :—

Area.	Variation from normal of mean pressure in			
	March.	April.	May.	Mean.
	"	"	"	"
India	+·045	—·004	+·012	+·018
Tashkent	+·200	+·184	+·156	+·180
Baku	+·124	+·144	+·056	+·108

III.—The south-west monsoon period, June to September 1901.—The meteorological conditions in the Indian land area antecedent to the establishment of the south-west monsoon were, on the whole, favourable to a normal monsoon and also to its rapid extension over India.

The following gives the most prominent and important of these antecedent conditions :—

(1) The snowfall up to the end of May was probably below the normal to a moderate extent in Persia, chiefly due to the early termination of the winter. In Baluchistan the snowfall was normal in amount and fell chiefly in November, December, January and February. In Afghanistan the precipitation was generally less than usual, while in Chitral it was probably below the normal in the earlier part of the winter, but was heavy in April and the first half of May. In Kashmir the chief feature was the heavy and late fall of the third week of April. In Chamba, Lahoul and the Simla hill states the winter commenced earlier than usual; moderately heavy snow fell in the

latter half of December, January and February and heavy and frequent snow in April. Consequently the accumulation at the end of May was probably greater than usual. In Kulu the accumulation was probably less than the average.

(2) In Kumaon and Garhwal the total fall of the season was above the normal to a moderate extent, while in the Assam Himalayas the fall was probably below the normal, the deficiency being most marked in Upper Assam and hence probably in the hills to the north of Upper Burma.

(3) Pressure was from January to March in increasing excess over the Indian area; it was about normal in April and in slight excess in May. Pressure was from December to April in slight excess in Northern and Central India and Upper Burma, as is the usual rule in periods of heavier cold and hot weather precipitation than usual, but was in slight defect in these areas in May.

(4) The pressure variations in the Peninsula, excluding Berar and the Central Provinces, were throughout the period generally opposite in character to those of Northern India, and were thus negative from December to April and positive in May.

(5) Pressure was generally in relative defect at the hill stations in the months of most disturbed weather in Upper India, *i.e.*, from December to February and in April, but was in relative excess in March and May, as is almost invariably the case in months of greater temperature than usual in the hot season.

(6) Temperature was in general defect in Extra-Tropical India in January and February, in general defect in March, except in North-Western India, where it was in slight to moderate excess. In April, on the other hand, it was in slight excess in North-Western India and in slight to moderate defect in North-Western and Central India. In May it was in general excess, the excess being most marked in Central and North-Western India.

(7) In Tropical India the variations of the temperature from the normal were generally opposite in character to those of Extra-Tropical India, being in excess from December to April, most marked in January and February, and, on the other hand, in slight defect in May.

(8) The air was damper than usual during the greater part of cold and hot weather periods over nearly the whole of the interior and more especially in North-Western India, Berar, the Central Provinces and the Deccan.

(9) The distribution of the precipitation during the cold and hot weather periods was abnormal. It was in more or less excess in the cold weather over the whole of India, with the exception of Assam, Baluchistan and Sind, the excess being very large in the Gangetic Plain, Chota Nagpur, Orissa, the Central Provinces, Berar and the Peninsula generally. It was in considerable to large defect in the hot weather period in North-East India, the United Provinces, Central India and Rajputana, but was, on the other hand, in slight to large excess in the Punjab and in moderate excess in Berar and Gujarat.

(10) The conditions in the Indian Seas and the Indian Ocean were, so far as can be ascertained, not unfavourable. Pressure was in May slightly lower than usual at the Seychelles, Zanzibar and Mauritius, but the winds were generally stronger than usual in the last fortnight of May. At the end of May the pressure conditions were about normal at all three stations in the Trades region, and the South-East Trades stronger than usual, so that the conditions seemed to be favourable for their early extension as south-west monsoon winds into the Arabian Sea. The only doubtful factor was the tendency of the humid currents to give excessive rain in East Africa, thus perhaps indicating an abnormal westerly determination of the monsoon currents.

The following is a summary of the forecast (prepared in the first week of June) of the probable strength of the monsoon currents and the distribution of the monsoon rainfall based on these conditions:—

(1) Judging from the conditions in India and the known conditions in the Indian Seas and Ocean, it is, on the whole, very probable the monsoon currents of the present year will be, as rain distributing currents, of at least normal strength on the average of the whole season and probable that they will be stronger than usual. It should, however, be noted that the heavy rainfall of the past two months in Central or Equatorial Africa points to the possible existence of conditions in that area unfavourable to a strong monsoon in India. So far as can be judged from the available information, the probability of this effect is very small. The average rainfall of the whole of India will probably be between 2 and 4 inches, or 5 and 10 per cent. in excess.

(2) It is probable there may be a slight delay in the establishment of the monsoon currents on the Bombay Coast. The delay will very probably be slight, and it is probable that the rains will set in fully on the Bombay Coast before the middle or end of the second week of June. The monsoon rains will probably begin about the normal date, in the third week of the month, on the Bengal Coast.

(3) The Bombay current is more likely to be above its normal strength than the Bay current.

(4) The local conditions were favourable, on the whole, in Burma, especially Lower Burma, Assam, Bengal, Bihar, Chota Nagpur, the United Provinces, especially the eastern districts, Central India, and these areas would probably receive at least normal rainfall.

(5) Conditions were less favourable in the Punjab, due chiefly to the excess of pressure in the northern districts, but they were, on the whole, favourable in Rajputana, more especially the eastern and central districts, the Central Provinces, Hyderabad (although less favourable there than in the Central Provinces), Berar, Khandesh, the West Coast, where the rainfall was likely to be practically normal.

(6) Conditions appeared to be more or less favourable in the Madras Deccan, Mysore and the Carnatic as well as in the North Madras Coast districts, and it was probable that in these areas the rainfall established about normal, except perhaps in the Carnatic, where it might be in slight defect.

The following table gives a summary of the rainfall data

of the south-west monsoon period, 1901, for comparison with the statements of the forecast :—

Province.	Rainfall of season, June to October.			
	Average actual, 1901.	Average, normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Burma	99·05	98·08	+0·97	+ 1
Assam	74·88	77·21	—2·33	— 3
Bengal	58·45	60·71	—2·26	— 4
Chota Nagpur	41·13	47·40	—6·27	—13
Bihar	30·34	43·59	—13·25	—30
United Provinces of Agra and Oudh.	28·39	34·70	—6·31	—18
Punjab	10·88	15·14	—4·26	—28
Central Provinces	43·44	45·83	—2·39	— 5
Central India	31·57	40·08	—8·51	—21
Rajputana	10·90	18·70	—7·80	—42
Berar	32·41	37·48	—5·07	—14
Bombay	32·11	41·44	—9·33	—23
Madras	30·69	34·06	—3·37	—10

The following table gives the mean variations of the more important meteorological elements in the eleven meteorological provinces of India for the south-west monsoon period, June to September, 1901 : —

Meteorological Province.	Variation from normal during south-west monsoon season, June to September.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation of rainfall.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	—·009	+0·5	+0·9	+·011	—1	+0·2	—1·31	— 1
Burma Island	0	+0·3	+0·5				—3·22	—10
Assam	—·006	—0·2	0				—5·47	— 8
Bengal and Orissa	—·011	+1·0	+0·5	+·009	—2	0	—2·51	— 5
Gangetic Plain and Chota Nagpur.	—·013	+2·6	+0·9	—·032	—7	—0·5	—7·20	—19
Upper Sub-Himalayas	—·012	+1·9	+0·8	—·054	—5	—1·1	—6·48	—21
Indus Valley and North-West Rajputana.	—·006	+2·1	+1·1	+·012	—2	—0·8	—3·68	—52
East Rajputana, Central India and Gujarat.	+·013	+3·7	+1·6	—·062	—10	—1·1	—14·35	—51
Deccan	+·012	+2·1	+0·8	—·001	— 2	—0·1	—4·57	—13
West Coast	+·007	+0·7	+0·8	—·001	— 2	—0·4	—1·44	— 2
South India	+·008	+1·3	+0·7	+·010	— 1	+0·6	—1·43	—10

The following is a statement of the chief features of the meteorology of the whole period :—

(1) Pressure was in slight excess on the mean of the whole period over the Peninsula, East Rajputana, Central India and Gujarat and in defect elsewere, except in Burma Inland, where it was normal. The excess was greatest in East Rajputana, Central India and Gujarat and the Deccan and the defect largest in the Upper Sub-Himalayas, Bengal, Orissa, the Gangetic Plain and Chota Nagpur.

(2) Temperature was in general excess, the day temperatures being more largely in excess than the night temperatures, the only area of deficient temperatures being Assam, where the day temperatures averaged 0°·2 below the normal. The excess was slightly marked in Burma, Bengal and on the West Coast, but was considerable in other parts of India, the day temperatures being especially high in the Gangetic Plain and Chota Nagpur +(2°·6), East Rajputana, Central India and Gujarat (+3°·7). The excess in the mean temperature exceeded 1° in the following divisions :—

East Rajputana, Central India and Gujarat (+2°·6), the Gangetic Plain and Chota Nagpur (+1°·7), the Indus Valley and North-West Rajputana (+1°·6), the Deccan (+1°·4), and the Upper Sub-Himalayas (+1°·3).

(3) The mean aqueous vapour pressure was in large defect in the Gangetic Plain and Chota Nagpur, the Upper Sub-Himalayas and East Rajputana, Central India and Gujarat, but in other parts of India the variations from normal were slight. The mean humidity was everywhere in defect, but the variations from normal were slight, except in the areas of deficient vapour pressure enumerated above, where they were considerable.

(4) The amount of cloud was, on the mean of the period, in slight defect everywhere, except in South India and on the Burma Coast, in both of which areas it was in slight excess. The defect was considerable only in the areas of deficient vapour pressure mentioned above.

(5) The rainfall, on the mean of the whole period, was everywhere in defect. The defect was large and exceeded 50 per cent. of the normal fall in the Indus Valley, Rajputana, Central India and Gujarat, while in the Upper Sub-Himalayas and the Gangetic Plain and Chota Nagpur the defect was about 20 per cent. of normal; elsewere the variations from normal were small and unimportant.

The chief features of the south-west monsoon period were the feebleness of the monsoon currents during June and the greater part of July, and their early retreat in September. During the last ten days of July and the whole of August they were of normal strength.

(1) The rainfall up to the end of July was, relatively to the normal, most largely in defect in Baluchistan, Sind, Rajputana, Kathiawar, Cutch, Gujarat and Central India. The following gives the data in illustration :—

Area.	Rainfall of period, June and July.			
	Average actual, 1901.	Average, normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Baluchistan	1·06	1·44	—0·38	—26
Sind	1·12	2·06	—0·94	—46
Rajputana	5·52	9·04	—3·52	—39
Kathiawar and Cutch	6·91	15·65	—8·74	—56
Gujarat	15·10	24·72	—9·62	—39
Central India	10·67	19·55	—8·88	—45

(2) The rainfall to the end of July was normal or in slight defect in Bengal, Assam, Burma and Bombay, as shown by the following data :—

Area.	Rainfall of period, June and July.			
	Average actual, 1901.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Bengal . . .	28 69	30·56	—1·87	— 6
Assam . . .	36·86	38·39	—1·53	— 4
Burma . . .	46·59	50·44	—3·85	— 8
Bombay . . .	19·21	23·03	—3·82	—17

(3) During August the total rainfall for the whole Indian region was approximately normal. It was in marked excess within a broad band stretching over the Central Provinces, Central India, the United Provinces and the Punjab hills. It was also in excess in Tenasserim and Arakan. The following gives data in illustration :—

Area.	Rainfall for August, 1901.			
	Average actual.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
United Provinces of Agra and Oudh.	12·57	10·57	+2·00	+19
Central India . .	17·24	11·98	+5·26	+44
Cenral Provinces . .	19·53	11·76	+7·77	+66
Punjab Hills . . .	23·63	16·67	+6·96	+42
Arakan . . .	44·44	40·03	+4·41	+11
Tenasserim . . .	52·03	42·56	+9·47	+22

(4) The rainfall of August was in considerable defect in the Central and West Punjab, Baluchistan and in Madras. The following gives data in illustration :—

Area.	Rainfall for August, 1901.			
	Average actual.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Central Punjab . .	2·58	4·75	—2·17	—46
West „ . .	1·11	2·04	—0·93	—46
Sind	0·21	1·94	—1·73	—89
Baluchistan . . .	0·22	0·74	—0·52	—70
Madras . . .	5·41	6·52	—1·11	—17

(5) September was abnormally dry over the greater part of India due to the weakness of the currents and their early withdrawal from a large part of the country. The fall was less than half the normal amount in the areas for which the following gives data :—

Area.	Rainfall for September, 1901.			
	Average actual.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Upper Sub-Himalays .	2·04	5·07	—3·03	—60
Indus Valley and North-West Rajputana.	0·17	0·89	—0·72	—81
East Rajputana, Central India and Gujarat.	0·85	4·92	—4 07	—83
West Coast . . .	3·80	9·30	—5·50	—59

The information at present available for discussing the meteorology of the South-East Trades region of the Indian Ocean is very limited.

The following gives variation data of the Royal Alfred Observatory, Mauritius, for nine months of the year deduced from a comparison of the means of 1901 with normal means based on the observations of the previous 25 years :—

Mauritius.

Month.	Variation from normal of pressure.	Variation from normal of rainfall.	Percentage variation of raintall.	Variation from normal of hourly wind velocity in m les.	Percentage variation of wind velocity.
	Inches.	Inches.			
January, 1901 . .	+·019	+11·26	+153	+3·0	+27
February „ . .	+·046	— 2·99	— 45	—3·9	—30
March „ . .	—·036	— 1·34	+ 16	—2·3	—23
April „ . .	—·033	— 1·86	— 35	—1·2	—11
May . „ . .	—·012	— 2·19	— 53	+1·6	+16
June . „ . .	—·003	— 0·04	— 2	0	0
July . „ . .	—·004	— 0·35	— 15	—0·5	— 4
August „ . .	—·001	— 0·03	— 1	—0·2	— 2
September „ . .	+·022	— 0·41	— 29	+0·2	+ 2

Pressure was in considerable defect in March and April, in slight defect in May and June, about normal in July and August and in moderate excess in September. The rainfall was in large excess in January and in slight excess in March, but during the other months of the period, January to September, the rainfall was in defect, the

defect being largest relatively to the normal in May and February, when about half the normal amounts were received. The total rainfall of the nine months was, however, in excess by 4·73 inches, or about 12 per cent. of the normal.

The wind strength was weaker than usual in February, March and April, but was above normal in May and practically normal throughout the whole of the monsoon period.

In the following table a similar comparison is given for Zanzibar, the normal means being deduced from the observations of nine years :—

Zanzibar.

Month.	Variation from normal of pressure.	Variation from normal of rainfall.	Percentage variation of rainfall.	Variation from normal of hourly wind velocity in miles.	Percentage variation of wind velocity.
	"	Inches.			
January, 1901 . .	+·037	−0·74	− 25	−1·3	−15
February „ . .	+·018	+7·76	+261	+1·2	+18
March „ . .	+·016	−0·48	− 9	−1·3	−23
April „ . .	−·007	+6·26	+ 53	+0·4	+ 6
May „ . .	−·009	+8·63	+ 98	+1·3	+16
June „ . .	+·036	+0·82	+ 66	−0·6	− 6
July „ . .	−·006	−0·49	− 23	−0·5	− 6
August „ . .	+·010	−0·63	− 34	+0·3	+ 4
September „ . .	+·045	+1·30	+ 83	−0·8	−14

The data indicate that the variations of the pressure from normal at Zanzibar were generally similar to the variations at Mauritius, namely, an excess of pressure in the earlier and later months of the period and a deficiency during the remainder of the period. At Zanzibar, however, the greatest excess of pressure showed in January instead of in February, as at Mauritius, while in March at Zanzibar pressure was in slight excess instead of in large defect, as at Mauritius in this month. At Zanzibar in June pressure was in moderate excess, but was in slight defect in April, May and July, while at Mauritius pressure was in slight to moderate defect from March to August.

The wind strength was practically normal from April to August, except in May, when it was in slight excess. It was below normal in September. The rainfall was in large excess on the mean of the period, the excess being very large in February and large in April, May, June and September. In the other months of the period it was in slight to moderate defect.

The following table gives the mean pressure differences between Mauritius and Zanzibar and Mauritius and the Seychelles (determined from the data of the seven years 1894—1900) and the actual differences in the corresponding months of the year 1901 :—

Month.	Pressure difference. Mauritius *minus* Zanzibar.			Pressure difference. Mauritius *minus* Seychelles.		
	Mean of 1894 to 1900.	Mean of 1901.	Variation.	Mean of 1894 to 1900.	Mean of 1901.	Variation.
	"	"	"	"	"	"
January . . .	+·027	+·042	+·015	−·024	+·026	+·050
February . . .	−·006	+·066	+·072	−·004	+·048	+·052
March	+·045	+·018	−·027	+·052	+·018	+·034
April	+·053	+·053	0	+·106	+·145	+·039
May	+·060	+·060	0	+·162	+·162	0
June	+·050	+·032	−·018	+·210	+·181	−·029
July	+·090	+·089	−·001	+·235	+·245	+·010
August	+·110	+·093	−·017	+·243	+·241	−·002
September . . .	+·108	+·106	−·002	+·211	+·211	0
Mean of whole period .	+·060	+·052	+·002	+·132	+·142	+·009
Mean of June to September.	+·090	+·080	−·010	+·225	+·220	−·005

The preceding data indicate that the pressure differences or total gradients between Mauritius and the Equatorial Belt, as represented by Zanzibar and the Seychelles, were greater than the mean of the seven years 1894—1900 during January, February and April, but less than the mean in March, June and August. In the other months of the year the gradient was practically equal to the mean. On the average of the monsoon period, however, the gradient was somewhat under the mean.

The following table gives a comparison, week by week, from the 1st of May to the end of September of the air pressure and velocity of the air movement at Port Victoria, Seychelles, in the seven years 1895 to 1901.

Week.	10 A.M. pressure reduced to sea-level and constant gravity at Lat. 45°.	Hourly wind velocity, in miles.					
		1901.	1900.	1899.	1898.	1897.	1896.	1895.
	"							
1st to 7th May .	29·876	6·0	4·9	5·7	3·1	7·1	5·3	5·9
8th to 14th „ .	29·899	4·7	6·3	4·4	2·4	6·4	8·3	3·6
15th to 21st „ .	29·910	3·0	3·4	7·5	7·9	6·2	10·1	3·7
22nd to 28th „ .	29·910	9·8	5·4	19·5	7·5	6·9	9·4	6·4
29th May to 4th June	29·937	8·4	8·8	10·9	7·5	4·5	9·4	9·9
5th to 11th „	29·947	11·5	9·6	8·3	10·8	7·3	9·5	12·9
12th to 18th „	29·982	7·0	9·8	12·2	13·7	7·8	11·8	11·6
19th to 25th „	29·965	8·3	8·9	13·5	10·3	9·0	9·9	10·3
26th June to 2nd July	29·939	7·8	11·3	11·7	13·0	4·0	10·7	13·0

Week.	10 A.M. pressure reduced to sea-level and constant gravity at Lat. 45°.	Hourly wind velocity, in miles.						
		1901.	1900.	1899.	1898.	1897.	1896.	1895.
	"							
3rd to 9th July	29·929	9·4	9·8	15·9	13·9	11·3	12·6	9·7
10th to 16th „	29·945	7·1	13·9	14·8	12·2	10·0	11·9	11·3
17th to 23rd „	29·955	11·0	11·3	13·3	8·9	9·2	12·6	14·0
24th to 30th „	29·950	12·9	12·4	14·8	11·5	16·8	11·3	11·2
31st July to 6th Aug.	29·935	11·5	12·9	13·0	12·4	11·5	15·8	13·2
7th to 13th „	29·931	15·0	13·8	14·2	12·3	9·9	14·0	11·7
14th to 20th „	29·958	15·7	15·5	15·3	14·3	13·1	13·7	16·0
21st to 27th „	29·983	15·8	14·7	15·8	12·3	12·8	15·5	14·0
28th Aug. to 3rd Sept.	30·016	17·2	12·2	12·2	9·9	8·9	16·1	12·0
4th to 10th „	30·015	15·3	10·7	15·0	13·4	16·7	10·8	13·3
11th to 17th „	29·981	12·5	11·5	12·8	12·5	10·9	13·3	12·9
18th to 24th „	30·019	8·6	14·3	7·5	10·3	13·0	12·8	12·1

The above shows that the wind at the Seychelles was considerably weaker than usual during the whole of May and June and the first three weeks of July. The winds began to strengthen in the third week of July and during the last week of the month were about normal in strength. They were unusually strong during the whole of August, the excess above normal being most marked at the end of that month and in the beginning of September. From this date the winds fell off steadily and in latter halt of September were below their normal strength. The winds rose temporarily during the second week of June and again in the week ending the 9th of July, but on neither of these occasions did they rise to their normal strength.

There was during the monsoon period a general correspondence between the variations of the strength of the winds at the Seychelles and the variations of the strength of the monsoon currents over the Indian land area. Thus about the time of the first advance of the monsoon over India in June the winds at the Seychelles strengthened and averaged 11·5 miles an hour. Again the strengthening of the winds at the Seychelles about the end of the first week of July may be associated with the advance of monsoon winds which occurred over India about that time. An exact correspondence, however, between the varying strengths of the winds at the Seychelles and the various advances of the monsoon in the early part of the monsoon period does not seem to have obtained an indication that the strength of the winds at the Seychelles is not the only factor which determines the advances of the monsoon over India. The abnormally strong winds at the Seychelles during August may, however, be associated with the strong monsoon which then held over India, while the steady decline of the wind strength in September at the Seychelles was probably similarly related to the feebleness of the monsoon currents over India during the latter part of that month.

The following gives the mean direction of the actual and variation from normal of the air movements at Zanzibar and the Seychelles, and shows that the direction of the air movement in the South East Trades region did not differ largely from normal during the monsoon period. The chief features were (1) a slight to moderate westerly deflection of the winds at Zanzibar, which was least marked in June and most marked in August and September, and (2) a slight easting of the winds at the Seychelles during May, June and July, most marked in May, while in August and September they were practically normal in direction :—

Month.	Zanzibar.		Seychelles.	
	Actual.	Variation, E.	Actual.	Variation, E.
January	N 41° E	+ 6°	N 39° W	+ 4°.
February	N 40° E	+ 6°	N 28° W	— 1°
March	N 31° E	Large	N 48° W	—17°
April	S 4° W	— 9°	N 12° W	Large
May	S 1° W	— 6°	S 53° E	+ 9°
June	S 3° E	— 1°	S 27° E	+ 6°
July	S 1° W	— 6°	S 36° E	+ 7°
August	S 3° W	—12°	S 35° E	— 1°
September	S 5° W	—13°	S 40° E	— 1°

IV.—The retreating south-west monsoon period, October to December 1901.—The following gives the mean variation data of this period for the eleven meteorological provinces :—

Meteorological Province.	Variation from normal during retreating south-west monsoon season, October to December.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage variation of rainfall.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	—·003	—0·3	+0·9	+·010	0	+0·6	+3·95	+27
Burma Inland	—·004	—1·1	+1·5				+0·70	+11
Assam	—·005	—0·2	+0·5				+2·61	+42
Bengal and Orissa	—·010	+0·7	+0·8	+·021	0	+0·7	+0·73	+11
Gangetic Plain and Chota Nagpur.	—·012	+2·3	+1·2	+·002	—4	0	—2·36	—79
Upper Sub-Himalayas.	—·007	+2·1	+1·9	—·001	—2	—0·6	—0·78	—67
Indus Valley and North-West Rajputana.	—·014	+2·8	+1·4	+·037	+1	—0·4	—0·39	—89
East Rajputana, Central India and Gujarat.	—·010	+3·6	+3·3	—·011	—7	—0·2	—0·78	—70
Deccan	+·001	+2·9	+1·4	—·037	—6	+0·1	—2·31	—54
West Coast	+·003	+0·3	+1·3	—·002	—3	0	—3·02	—26
South India	—·004	+0·5	+0·5	+·008	0	+0·8	—0·04	0

The following summarizes the chief features of the period :—

(1) The mean pressure was below the normal over the whole Indian area, except in the Deccan and the West Coast districts, where it was in very slight excess. The defect was general over the whole of Upper India, but was most marked in the Indus Valley and North-West Rajputana (−·014″), the Gangetic Plain and Chota Nagpur (−·012″), East Rajputana, Central India and Gujarat (−·010″) and Bengal and Orissa (−·010″).

(2) The maximum temperature was in excess in all divisions, except Burma and Assam, where it was in slight to moderate defect. The excess was most marked in East Rajputana, Central India and Gujarat (+3°·6), the Deccan (+2°·9) and the Indus Valley and North-West Rajputana (+2°·8). The excess was more than 2° in the Gangetic Plain and Chota Nagpur and the Upper Sub-Himalayas. Elsewhere the variations from normal were slight.

The mean minimum temperature of the period was in excess everywhere, the excess being large (3°·3) in East Rajputana, Central India and Gujarat and moderate in the Upper Sub Himalayas, Burma Inland, the Deccan and the Indus Valley and North-West Rajputana. The excess was least in Assam and South India.

The mean temperature of the period was in excess in all divisions. The excess was 2° and over in the Deccan, Gujarat, Rajputana, Central India, the Indus Valley and the Upper Sub-Himalayas and was over 3° in East Rajputana, Central India and Gujarat.

(3) The mean aqueous vapour pressure was in slight excess in the Indus Valley and North-West Rajputana and in Bengal and Orissa, and in slight defect in the Deccan. Elsewhere the variations from the normal were of slight importance. The mean relative humidity was 6 below the normal in the Deccan, but was 7 below normal in East Rajputana, Central India and Gujarat. Elsewhere the variations from the normal were slight.

(4) The rainfall of the period was in considerable excess in Assam, in moderate excess in the Burma Coast and Bay Islands and in slight excess in Burma Inland and Bengal and Orissa. The excessive rainfall in these areas was mainly due to the advance of cyclonic storms from the Bay.

(5) The rainfall of the period was normal in South India and in slight defect on the West Coast.

(6) The rainfall of the period was in considerable to large defect over the remainder of the country, including the Indo-Gangetic Plain, Rajputana, Gujarat, Central India and the Deccan. The driest area was the Indus Valley and North-West Rajputana, where practically no rain was received. The rainfall in the Gangetic Plain and Chota Nagpur was about one-fifth of the normal fall. The only precipitation which occurred in North India during the period accompanied the advance in an east-north-easterly direction of a shallow depression from Gujarat in the last week of December. The weather throughout the period was less disturbed than usual in Upper India.

The more noteworthy features of the period were :—

(1) The delay in the establishment of the retreating south-west monsoon rains on the Madras Coast.

(2) The retreat of the south-west monsoon currents from the south of the Bay slightly earlier than usual.

(3) The unusual tracks of the cyclonic storms during October and November.

(4) The prevalence of unusually fine weather throughout the period in North-West and Central India and the Deccan due to the absence of cold weather disturbances.

The Bay current was slightly below normal strength during the first two months of the monsoon period, and was determined more largely than usual to North-East India and Burma. It was strong in August and September. The Arabian Sea current was, however, feebler than usual throughout the whole season, and withdrew from Upper India during the first week of September, or about ten days earlier than usual.

Northerly winds did not set in over the north and centre of the Arabian Sea until the fourth week of October in consequence of the prevalence of unusual pressure conditions in Northern India.

The chief abnormal features of the distribution of pressure in the month of September were a large excess of pressure over the head of the Peninsula, most marked over the West Satpuras and in Kathiawar, a considerable excess over the greater part of the remainder of India, except in South India, the south of the Bay and in Lower Burma, where the excess was only slight.

The distribution of pressure was abnormal during the greater part of the month of October. Pressure was in large defect over Northern India and the north of the Bay, the defect being greatest in Upper India. The belt of low pressure hence occupied an abnormal position, lying much further north than usual. Pressure remained low in Upper India until the 25th or 26th, and during the first half of the month the eastern extremity of the belt of low pressure extended southwards from Bengal over the north and centre of the Bay, a distribution favouring westerly winds over the west of the Bay. Two storms formed in this belt during the month; the first advanced northwards to Bengal and the second north-westwards across the Deccan to Gujarat. During the second half of the month pressure was lower over Burma and the south-east of the Bay than elsewhere, and abnormal westerly winds hence obtained over the west of the Bay instead of the north-easterly winds which usually obtain. The weather hence continued fine on the Madras Coast. The chief feature of the meteorology in the Bay was hence the contrast between the disturbed weather in the first half of month and the fine quiet weather in the second half.

During November the ordinary north-easterly winds prevailed over the north, centre and west of the Bay, except during the periods of formation and advance of the two storms of the month. These gave fairly general rain to the Peninsula south of Lat. 16° N.

The monsoon winds withdrew completely from the south of the Bay on the 10th of December, or about a week earlier than usual. North-easterly winds extended southwards and were established over whole of the Bay area by the 13th.

The mean pressure data of the period show a persistent defect of pressure in Northern India and an excess in the Deccan.

The pressure conditions were hence unfavourable in the Deccan throughout the season, but in Southern India unfavourable in October only. They were, on the other hand, favourable in Burma and Bengal during October and the rains were hence prolonged beyond their usual date in these areas.

The year.—The following gives a tabular summary of the meteorological data of the year 1901 for the eleven meteorological provinces of India :—

Provincial meteorological data for the year 1901.

PROVINCE.	Bar. variation.	Mean maximum temperature of year.	Variation of year.	Mean minimum temperature of year.	Variation of year.	Mean daily temperature of year.	Variation of year.	Mean daily range.	Absolute range during year.	Mean monthly absolute range.	Rainfall of year.	Normal rainfall of year.	Variation from normal of year.	Percentage variation of rainfall.
	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	°
Burma Coast and Bay Islands	—·004	87·8	+0·3	74·2	+2·1	81·0	+1·2	13·6	38·5	21·9	140·58	139·77*	+ 4·40*	+ 3
Burma Inland	+·009	90·4	+0·3	69·7	+1·0	80·1	+0·7	20·7	61·2	32·1	48·16	46·40	+ 1·76	+ 4
Assam	+·004	84·0	+0·5	67·3	+0·3	75·6	+0·4	16·7	52·6	27·7	89·16	104·89	—15·73	—15
Bengal and Orissa	+·003	87·2	+0·8	69·7	+0·6	78·5	+0·7	17·6	57·5	29·8	68·29	72·72	— 4·43	— 6
Gangetic Plain and Chota Nagpur	+·004	88·6	+0·4	67·6	+0·8	78·1	+0·6	21·2	67·8	34·7	38·90	44·77*	— 6·49*	—14
Upper Sub-Himalayas	+·008	87·5	+0·1	63·7	+0·9	75·7	+0·5	23·8	76·1	39·0	32·17	37·82*	— 5·06*	—13
Indus Valley and North-Western Rajputana,	+·004	92·3	+1·2	65·9	+0·8	79·1	+1·0	26·4	82·1	43·2	6·55	9·66	— 3·11	—32
East Rajputana, Central India and Gujarat.	+·008	91·3	+1·7	68·4	+1·4	79·9	+1·6	23·0	69·8	37·2	16·13	30·15*	—12·58*	—42
Deccan	+·012	90·7	+0·7	68·1	+1·1	79·4	+0·9	22·6	64·8	35·7	36·46	41·18	— 4·34*	—11
West Coast	+·006	86·5	+0·7	75·1	+1·1	80·8	+0·9	11·4	34·0	20·3	98·93	103·03	— 4·10	— 4
South India	+·007	90·8	+0·8	73·0	+1·1	81·9	+0·9	17·9	45·5	27·8	36·94	36·64*	— 0·17*	0

* A reference to Table I at the end of the summary will show that the means in figure columns 12 and 13 are derived from a smaller number of stations than the means in the eleventh figure column. The sum of the figures in columns 12 and 13 therefore will not agree with the figures in column 11.

The mean 8 A.M. pressure of the year was in very slight excess over the whole of India, except the Burma Coast and Bay Islands, where it was in very slight defect. The excess exceeded +·010″ only in the Deccan (+·012″).

The mean maximum temperature was in excess in all divisions. The excess averaged 0°·8 over the whole of India and was greatest in East Rajputana, Central India and Gujarat (+1°·7) and the Indus Valley and North-West Rajputana (+1°·2). Elsewhere the variations from normal were slight.

The mean minimum temperature was similarly excessive everywhere, the excess being most marked in the Burma Coast and Bay Islands (+2°·1) and in East Rajputana, Central India and Gujarat (+1°·4). The abnormal excess was 1° or over everywhere, except in Assam, Bengal and Orissa, the Gangetic Plain and Chota Nagpur, the Upper Sub-Himalayas and the Indus Valley and North-West Rajputana.

The mean temperature of the whole land area was, according to the data in Table I, 0°·9 above the normal, and, according to those of Table II, 0°·6 in excess. The variations for the year were generally less than those for the preceding year and exceeded 1° in only two of the eleven meteorological provinces. The excess was most marked in East Rajputana, Central India and Gujarat (+1°·6) and in the Burma Coast and Bay Islands (+1°·2) and in the Indus Valley and North-West Rajputana (+1°·0). The excess was least in Assam, Bengal and Orissa, the Gangetic Plain and the Upper Sub-Himalayas, where it was about 0°·5.

The mean rainfall for the whole of India was in considerable excess in the first period of the year, in slight defect in the second and third and in slight excess in the fourth. The mean variation for the whole year, taking into consideration the areas represented by the rainfall stations, was 4·13 inches. The deficiency was greatest in percentage amount in East Rajputana, Central India and Gujarat (42 per cent.), the Indus Valley and North-West Rajputana (32 per cent.), Assam (15 per cent.), the Gangetic Plain and Chota Nagpur (14 per cent.) and the Upper Sub-Himalayas (13 per cent.). The variations in the remaining provinces were small in percentage amount: the rainfall of the year was in slight excess in Burma.

Concluding Remarks.—All the more important features of the meteorology of the year have been stated in the preceding discussion. The following gives a very brief summary of the more interesting and important abnormal features with their probable relations to each other.

The chief feature of the cold weather was the absence of well-marked cyclonic storms in Northern India. The storms of the period were of two classes—first, those which passed eastwards from the Persian region or formed over the Baluchistan Plateau, and, secondly, those which developed over the Gulf of Cambay and off the North Bombay Coast. Depressions of the former class were more numerous than usual, but they were, for the most part, very slight, mere waves of low pressure, which in general had little other effect than to cause a temporary reduction of the prevailing excess of pressure in Upper India. Only one of these depressions was associated with the devel-

opment of a secondary depression in the Punjab or with general rainfall over North India, namely, the depression of the 10th and 11th of January in Persia and Baluchistan and the 12th, 13th and 14th in Upper India, a storm which was almost certainly connected with the southward movements of a deep depression from the north-east of Russia in Europe to the Caspian region and North Persia on the 7th, 8th and 9th. The cyclonic storm of the 1st to the 8th February, although it belonged to the second class of storms, also gave rise to a depression in the Punjab. It originated in the Gulf of Cambay and afterwards, moving in an east-north-easterly direction, gave rise to a well-marked depression in the Punjab from the 4th to the 6th.

In connection with this storm it may be noted that on the 3rd pressure fell very rapidly in the Baikal region and rapidly at Gilgit and some of the Kashmir stations and at Sibsagar in the Upper Brahmaputra Valley, but that at Kashgar and Tashkent pressure was steady. On the 4th the fall continued in Kashmir, where it was brisk to rapid, and while a slight rise had appeared in Upper Assam the fall had spread westwards and northwards and was very rapid (exceeding a fifth of an inch) at Kashgar and Tashkent. On this day pressure was falling over the whole of the Indian and Persian regions as well as in Asiatic Turkey, Central Asia and the east and south-east of Europe. It was thus due to a general, and not a local, action, which, although probably not the direct cause of the development of the depression in the Punjab, was probably a favouring condition.

The other class of storms which affected the weather of India during the cold weather period originated for the most part in the Gulf of Cambay, under conditions of relatively high pressure in the west and north-west of the Arabian Sea, and of relatively low pressure off the North Bombay Coast and the Gulf of Cambay, while pressure was relatively high over Berar, Khandesh and the West Satpuras, conditions which favoured the initiation of a cyclonic circulation over the Gulf of Cambay and the North Bombay Coast. These storms for the most part pursued an easterly course over the head of the Peninsula and gave rain over the greater part of the Peninsula as well as in Upper India.

The anti-cyclonic conditions which held over India during the second half of January and the greater part of February and March were probably to be associated with the strongly marked anti-cyclonic conditions which held more or less steadily during these months in Central Asia and the Transcaspian region.

The mean temperature of the cold weather period was unusually low over the greater part of Upper India and the head of the Peninsula. In January the defect of temperature was most marked in the Indo-Gangetic Plain and was probably due to excessive precipitation and an unusually large amount of cloud, a view confirmed by the fact that the defect was mainly in the day temperatures, while the night temperatures were normal or in slight excess. The low day temperatures which in February marked a large area extending from West Bengal through the Central Provinces to the Madras Deccan were probably similarly conditioned. But the large defect in both the day and night temperatures which showed in this month over Kathiawar, Gujarat and Sind cannot be thus explained. For there the night temperatures were in even greater defect than the day temperatures, the amount of cloud less than usual and the rainfall *nil*. It is probable that in this area the low temperatures were in part at least conditioned by the abnormal development of anti-cyclonic conditions in Rajputana and the West Satpuras, which were a marked feature in that area during February.

During March the weather was disturbed in the mountain regions to the north and north-west of India at the end of the first and third weeks of the month. During both disturbed periods rain fell more or less generally over the plains of Upper India and on the hills, while snow fell on the higher ranges down to unusually low levels. Both disturbed periods were succeeded by strongly marked cold waves, due partly to the precipitation in the plains, but probably more largely to the snowfall in the hill regions. In April also there were two important periods of disturbance, at the beginning of the second and in the third week, respectively, each of which was followed by a well-marked cool period. The first, like the disturbances in March, gave rain in the plains of Upper India and snow in the hills. The second storm gave no precipitation in the plains, but was followed by a very strongly marked cold wave, which spread over the whole of Upper India, reducing the temperature as much as 10° or 12° below the normal in the plains of the Punjab. The following gives a short account of the more important features of this disturbance, so far as they can be determined from the available data.

On the 14th pressure was in defect over the whole of India, the defect being most marked in the Indo-Gangetic Plain East, were it amounted to about an eighth of an inch. Over Burma and the Bay area and in the West Punjab the defect from normal was about a twentieth of an inch. Pressure had fallen over almost the whole of India, the fall being brisk in the Gangetic Plain and brisk to rapid at the hill stations in the north of the Punjab and in Kashmir. In the latter areas a depression which had advanced from the west was giving slightly disturbed weather and some showers to the Panjab plains and the hills to the north. Temperature was in moderate to large defect in the centre of the Punjab, the defect being most marked in the area defined by the stations for which the following gives data:—

Station.	Data for 24 hours ending 8 A.M., 14th April, 1901.				
	Rainfall.	Fall of temperature during the preceding 24 hours.	Variation from normal of the		
			Maximum.	Minimum.	Mean.
	Inches.	°	°	°	°
Montgomery . .	0·35	—9·0	—22·4	+0·1	—11·2
Lahore . . .	0·19	—9·5	—15·8	+0·4	—7·7
Mooltan . . .	0·17	—4·7	—12·0	+0·5	—5·8
Ludhiana . . .	0·30	—6·0	—10·7	+1·1	—4·8
Khushab . . .	0·55	+0·5	—0·6	—2·2	—1·4
Rawalpindi . .	1·09	—0·2	+0·8	—4·3	—1·8

The temperature was in moderate to large excess over the remainder of North-West India. Pressure was lowest at the foot of the Nepal hills and westerly and north-westerly winds were holding over the greater part of Rajputana and the western and central districts of the United Provinces, while in North Bengal and Assam the winds were easterly and north-easterly. On the 15th pressure rose briskly to rapidly in the South Punjab and Rajputana, and rapidly at the stations in Further Kashmir. The low temperatures had spread a little farther to the south and south-west, but had extended only slightly into Rajputana and Upper Sind.

On the 16th pressure fell very rapidly in Central and North-East Punjab and rapidly in Kashmir, while it had risen briskly in the Indo-Gangetic Plain East. Pressure was now lowest in the north-east of the Punjab, where it was over a fifth of an inch in defect, the defect at the Kashmir stations being, however, only slightly less. Temperature had risen in the Punjab, but had fallen in the United Provinces and Rajputana with the eastward movement of the area of low temperature noticed on the previous day. The only precipitation was a few thunder-showers in the extreme north of the Punjab.

On the 17th pressure rose very rapidly in the Punjab (over three-tenths of an inch at Lahore and Sialkot) and briskly to rapidly over the remainder of Upper India, where pressure was now in moderate to considerable excess. In Thibet, however, the rise was slight and pressure was still in large defect at Leh. There had been no rain in the Punjab, but a snowstorm was reported from Dras, and it is probable that snow had fallen fairly generally in the interior ranges. Temperature fell very rapidly in the extreme north of the Punjab, defects of 14° and over in the mean temperature being reported from several stations. At Leh, however, the defect from normal in the mean temperature was only 3°·4. By this day the cooling effect of the previous cold wave in the United Provinces had practically disappeared. The following gives 8 A.M. data for the area of defective temperature on the 17th :—

Station.	Variation from normal of			Change during the preceding 24 hours.
	Maximum.	Minimum.	Mean.	
	°	°	°	°
Peshawar	−20·7	−9·1	−14·9	−9·5
Rawalpindi	−20·4	−8·3	−14·4	−8·1
Khushab	−12·8	−8·3	−10·6	−7·5
Montgomery	−12·3	−4·0	−8·2	−4·0
Mooltan	− 8·6	−2·2	−5·4	−5·0
Bikaner	− 7·2	−7·4	−7·3	−5·0
Jaipur	+ 0·9	−1·5	−0·3	+4·0
Agra	− 2·0	−0·1	−1·1	+4·0
Cawnpore	− 0·3	−1·5	−0·9	+3·2

The only change on the 18th was the slight extension of the area of low temperature, as shown by the following data for 8 A.M. of that day :—

Station.	Variation from normal of			Change during the preceding 24 hours.
	Maximum.	Minimum.	Mean.	
	°	°	°	°
Leh	−6·7	−6·9	−6·8	−2·5
Srinagar	−9·4	−4·1	−6·8	+3·5
Peshawar	−11·9	−13·9	−12·9	+2·7
Rawalpindi	−14·8	−3·3	−9·1	+6·5
Khushab	−9·0	+0·1	−4·5	+7·0
Montgomery	−7·7	−8·3	−8·0	+1·0
Mooltan	−7·9	−7·9	−7·9	−1·5
Bikaner	−6·8	−5·7	−6·3	+1·8
Jaipur	−4·1	−0·9	−2·5	−1·3
Agra	−5·6	−3·7	−4·7	−2·5
Cawnpore	−2·7	+0·6	−1·1	−0·5

The temperature had begun to rise in the north and centre of the Punjab and in the outer ranges of the hills, but had fallen at Leh. On this day pressure fell slightly over almost the whole of India.

On the 19th pressure again fell, briskly to rapidly, in Upper India, the fall exceeding ·150″ in the Central Punjab and slightly to briskly over the remainder of India. In Kashmir the fall was brisk only at the outer stations and was slight at the interior stations. Pressure was now in moderate to large defect over the whole of India, the defect being greatest along the line of the hills from Assam to Oudh, where it exceeded ·150,″ and at Leh, where it was ·190″. Some showers had fallen in Lower Bengal, Chota Nagpur and the West Coast, but elsewhere in India no rain had fallen. Pressure was lowest along the line of the hills from Rohilkhand to North Bengal and strong westerly to north-westerly winds were holding in the Gangetic Plain. The effects of the cold wave had extended still further eastwards and temperature had fallen briskly to rapidly in the United Provinces, Chota Nagpur and Bengal, the Central Provinces, Central India and Rajputana. The following gives data for these areas and the Punjab for 8 A.M. of the 19th :—

Area.	Variation from normal of the			Change during the preceding 24 hours.
	Maximum.	Minimum.	Mean.	
	°	°	°	
Punjab	−9·5	−8·1	−8·8	−1·1
United Provinces of Agra and Oudh	−4·4	−6·7	−5·6	−3·3
Chota Nagpur	−1·5	−2·2	−1·9	−4·0
Bengal	+4·4	−4·7	−0·2	−3·8
Central Provinces	−1·1	−2·5	−1·8	−3·1
Central India	−5·0	−6·6	−5·8	−3·4
Rajputana	−5·0	−7·7	−6·4	−2·7

On the 20th the changes of pressure were generally upwards in North-East India, but the fall continued in the Punjab, being rapid in the extreme north of the province. A brisk to rapid fall was reported from Further Kashmir. Pressure was now nearly three-tenths of an inch in defect at Leh and was over one-fifth of an inch in defect at Simla and Murree.

As on the previous day, the only precipitation reported in India was a few showers in South India and in Lower Bengal. In Kashmir, however, conditions were very disturbed and it was reported to be snowing at Leh. Temperature had again fallen in nearly the whole of Northern and Central India. Defects in the mean of 14° to 16° were reported from the north-east and centre of the Punjab. The following gives data for 8 A.M. of this day and shows that temperature was in large defect over the greater part of Upper India:—

Station.	Variation from normal of the			Change during the preceding 24 hours.
	Maximum.	Minimum.	Mean.	
	°	°	°	°
Leh	−14·5	− 4·5	− 9·5	−2·5
Srinagar	−11·1	− 5·5	− 8·3	−4·6
Murree	−17·3	−13·1	−15·2	−0·5
Rawalpindi	−20·3	−15·2	−17·8	−5·3
Sialkot	−19·4	−13·6	−16·5	−4·5
Montgomery	−15·7	−16·3	−16·0	−5·5
Sirsa	−11·6	−10·6	−11·1	+0·5
Quetta	−12·1	−11·9	−12·0	−5·8
Jacobabad	− 9·0	−10·2	− 9·6	−3·3
Jaipur	− 3·8	− 6·9	− 5·4	−1·0
Delhi	− 8·2	− 6·9	− 7·6	−1·5
Agra	− 7·5	− 1·0	− 4·3	+3·3
Lucknow	− 5·0	− 8·7	− 6·9	−2·3
Allahabad	− 6·3	− 8·5	− 7·4	−0·5
Jubbulpore	− 3·6	− 3·5	− 3·6	+1·0
Ranchi	− 5·0	− 3·8	− 4·4	−2·2
Darbhanga	+ 2·1	− 7·3	− 2·6	−3·5

On the 21st snowfall was reported from Dras and Leh and disturbed weather in other parts of Kashmir. Temperature had fallen at all the Kashmir stations and at the hill stations of Upper India, but was beginning to rise in the Punjab. Pressure was rising briskly in the Punjab and Kashmir; at Leh pressure was still more than a fifth of an inch in defect. Pressure was lowest over the east of the United Provinces and westerly and north-westerly winds generally obtained to the west and north-west of that area. The limits of the area of defective temperatures were practically unchanged.

Conditions continued more or less disturbed in Further Kashmir during the next four or five days, but the pressure rose slowly and steadily, and by the 26th was in considerable excess in Kashmir. The precipitation ceased in the interior ranges on the 23rd so far as the available data go, and from the 25th the temperature began to rise more rapidly in North-West India, and by the 27th the abnormal defect had to a large extent disappeared. The following gives mean variation data for representative stations in Upper India for altenate dates from the 21st to the 27th April:—

Station.	Variation from normal of the mean temperature on the			
	21st.	23rd.	25th.	27th.
	°	°	°	°
Leh	−11·9	−13·8	−10·6	−6·4
Srinagar	− 9·3	−10·9	− 8·7	−5·8
Murree	−10·3	− 9·4	− 4·7	−1·9
Rawalpindi	−11·7	−11·9	− 4·6	−3·6
Sialkot	− 7·6	− 8·6	− 2·2	−1·7
Montgomery	−12·5	− 7·5	− 6·8	+2·3
Sirsa	−12·3	− 9·5	− 7·7	−1·4
Quetta	−10·8	− 8·5	− 2·9	−4·4
Jacobabad	− 9·9	− 9·0	− 2·8	−5·4
Jaipur	− 4·5	− 3·0	− 3·5	+1·3
Delhi	−11·0	− 9·6	− 9·2	−3·0
Agra	− 7·5	− 7·4	− 7·9	−3·8
Lucknow	− 2·0	− 9·0	− 7·5	−2·0
Allahabad	− 2·2	− 7·9	− 6·6	−4·2
Jubbulpore	− 3·9	− 6·3	− 3·1	−4·2
Ranchi	− 5·6	− 4·3	− 1·6	−1·3
Darbhanga	+ 0·6	− 3·9	− 2·0	−2·0

This cold wave began to show on the 17th in the north of the Punjab, it reached its maximum intensity on the 20th and thereafter slowly passed away. It dominated the temperature conditions of Upper India for at least a week.

It may be remarked that heavy snow was reported to have fallen on the hills near Chitral during the week preceding the 24th.

There were falls of snow at Bashahr down to 8,500 feet on the 22nd and 23rd and on the higher peaks in the Kumaon Himalayas on the 20th and 21st.

There seems to be some reason for supposing that the snowfall in the interior ranges which occurred on and after the 20th was due to the eastward passage of the low pressure area which showed in the Punjab on the 19th, but if so, its effect on the weather in the interior ranges was much more marked than on the lower ranges bordering on the plains; for not only was the precipitation slighter in the outer, than in the interior, ranges, but the abnormal defect of pressure was also less. If the disturbance passed up from the Punjab plains, it seems to have intensified considerably after passing the outer ranges. The data are, however, too scanty to enable the true nature of the actions to be determined.

The most important feature of the weather during the last week of April was the formation of a cyclonic storm in the south-east of the Arabian Sea on the 24th or 25th.

On the 19th the weather was squally and rainy and the sea rough in an area lying apparently between Lat. 2° S. and 6° S. and about Long. 68° or 70° E., due probably to the first northward advance of the South-East Trades. The data available for this region on this and the following days are unfortunately very scanty, but they seem to indicate that during the succeeding three or four days this region of disturbed conditions moved in a northerly direction. But whether the irregularly cyclonic circulation which showed on the 24th to the west of the Maldives was or was not connected with the northward advance of these disturbed conditions the data are insufficient to determine. By the 25th the depression had apparently developed considerably and showed a definite centre near Lat. 6° N. and Long. 74°E. and was now affecting the winds in Ceylon and on the Malabar Coast. During the next six days it moved in a north-westerly direction, and on the 1st of May seemed to be central near Lat. 16°N. and Long. 63°E. Its course during the next two days is somewhat uncertain. There are, however, indications that on the 2nd of May it was central off the East Arabian Coast, near the Kuria Muria Islands; then recurving it probably passed in a north-easterly direction up the west of the Arabian Sea and was probably central off the mouth of the Persian Gulf on the morning of the 3rd. It seems to have then crossed the Mekran Coast and, continuing to advance in a north-easterly direction, to have passed into South Baluchistan or possibly into Upper Sind by the morning of the 4th. By the morning of the 5th it was central in the north-west of the Punjab, near Khushab, where and at Dera Ismail Khan the barometer had fallen more than ·350″. At the latter station pressure was over four-tenths of an inch in defect. Pressure had also fallen very rapidly in Further Kashmir. By the morning of the 6th pressure had risen very rapidly in the North-West Punjab, where pressure was now in only slight to moderate defect, but it had risen only very slightly in Kashmir, where consequently pressure was still about a fifth of an inch in defect. This storm gave very heavy rain in Baluchistan, the Punjab and Kashmir on the 4th, 5th and 6th, the heaviest falls reported being 11·40 inches at Fort Lockhart in the Kohat district on the 5th and 5·60 inches at the same station on the 6th, making a total of 17 inches in the two days.

In the higher ranges of the Afghan Mountain districts heavy snow was received on the 5th and 6th, and in the Chitral Valley the snow line descended to 6,000 feet on the 5th. On the 5th, 6th and 7th snow fell on the Upper slopes of the Simla hills down to 11,000 feet, while in the Kumaon and Garhwal Himalayas slight to moderate falls occurred on these days. It is almost certain that the disturbed weather and snowfall in the hills was due to this storm. The heavy precipitation which accompanied, this storm caused a very rapid fall of temperature, which was most marked in the north of the Punjab on the 6th and 7th, when mean temperatures more than 18° below normal were recorded. From the 8th, however, the temperature rose rapidly and by the 11th the abnormal temperature conditions had largely passed away.

Disturbed conditions again appeared in the north of the Punjab and in Kashmir about the 16th and 17th, which seemed to be due to the eastward advance of a depression from the Punjab. The disturbance gave snow in the Afghan Mountain districts and in the Simla hills on the 16th and 17th and snow in Further Kashmir on the 17th. The cool wave which followed this precipitation was, however, at no time strongly marked.

It has been noticed that in hot weather seasons following cold weather periods, in which the precipitation in North-Western India has been scanty and below the normal, there frequently occurs heavier rain than usual in North and East Bengal and Assam. The reverse was the case in 1901. The precipitation was in general excess during the cold weather period of 1901 and the rainfall in Assam and Bengal during the hot weather was in general moderate defect.

The following gives the percentage variation of rainfall from the normal in Assam and Bengal in the hot weather seasons of the years characterized by scanty cold weather precipitation in North-Western India, together with data for the hot weather precipitation of 1901 :—

Year.	Percentage variation of hot weather rainfall from normal in			
	Assam.	East Bengal.	North Bengal.	South-West Bengal.
1879	−3	−55	−10	−68
1880	−38	+15	+7	+6
1881	+16	+72	+30	+31
1882	−4	+2	−21	−8
1890	−15	+1	−10	−23
1892	+53	+16	+52	−22
1895	−4	+19	−6	−17
1896	+9	−2	+11	−29
1897	−6	−22	+5	−6
1899	−1	+29	−10	+5
1900	+5	−24	−26	−12
1901	−37	−37	−40	−9

An examination of the daily charts seems to show that rainfall occurs in Assam and East Bengal chiefly, if not solely, during periods when an area of relatively low pressure in North or Central Bengal is causing an indraught of sea winds from the head of the Bay, while at the same time pressure is relatively high over Upper Burma and Assam. Under these conditions the damp southerly current advancing from the Bay area encounters drier north-easterly airs as it rises over the uplands of Assam and the consequent interaction and ascensional movement gives conditions favourable for precipitation. Thus, in March 1901, the rainfall periods in Assam were (1) from the 4th to the 9th, and (2) from the 20th to the 26th, and during both these periods the conditions abovementioned were more or less strongly marked. During the remainder of the month the general conditions were characterized by the prevalence of a more or less well-marked north-easterly or northerly air movement over the

whole of Assam, North and East Bengal and the north of the Bay, in which there was no interaction of opposing currents and little or no ascensional movement. The total rainfall of March was unusually light in Assam, averaging less than a quarter of the normal. In April the rainfall of the month was about normal on the mean of the area. The rainfall, though lighter than usual in daily amount, continued very steady throughout the month, and it is to be noted that the conditions of relatively low pressure in North Bengal and relatively high pressure in Assam held almost uninterruptedly throughout the month. The above view is confirmed by the fact that on the few days when the rainfall ceased in Assam the damp southerly current from the Bay was either weaker, or was deflected towards Central Bengal by unusually low pressures in that area or in regions farther to the west. Similar conditions seemed to govern the incidence of rainfall in Assam in May. The total rainfall of the month was only about half the usual amount, and it may be remarked that the mean pressure conditions of the month seemed to offer some explanation of this abnormality. Pressure was on the mean of the month of May in slight defect in the east of the United Provinces and in the East Satpuras, while in slight excess in lower Bengal, as shown by the following data :—

Area of excessive pressure.		Area of defective pressure.	
Station.	Variation of pressure from normal.	Station.	Variation of pressure from normal.
	"		"
Burdwan	+·015	Allahabad	−·015
Berhampore	+·019	Benares	−·001
Calcutta	+·018	Patna	−·002
Narayanganj	+·017	Sambalpur	−·002

Pressure was at the same time relatively low in Assam, and the gradients between Lower Bengal and the Upper Assam Valley were consequently slighter and the pressure more uniform than usual. Under these circumstances the amount of interaction between the southerly winds of Lower Bengal and the north-easterly air movement over Assam would naturally be also less than usual.

In April, on the other hand, pressure was in slight relative defect over Bengal and in slight relative excess over the east of the United Provinces and the East Satpuras. There was hence no unusually southing of the winds in Lower Bengal, where on the mean of the month the winds were about due south at Barisal, Narayanganj, Comilla and other stations in East Bengal. In May the winds at these stations had a strong easterly component, and formed part of a well-marked circulation towards an area of low pressure in the west of Bengal and the east of the United Provinces. In March pressure was relatively high in North and West Bengal and over the whole of Assam and in Upper Burma. Consequently the mean winds of the month were easterly and north-easterly over Assam, Upper Burma, north-east of the Bay and in North Bengal, while in Central Bengal they were generally westerly, the usual southerly winds at the head of the Bay being almost entirely absent. It is evident that under these conditions precipitation in Assam would naturally be slight.

As regards the comparative weakness of the monsoon currents over the Indian region during the greater part of June and the first half of July, an examination of the available data seems to show that it was mainly, if not entirely, a result of the weakness and unsteadiness of the South-East Trades during that period. Thus from the 17th to the 23rd of June the winds in the Equatorial belt were unusually weak and irregular in direction, and from the 23rd to the 29th they showed an abnormal easting. During the second half of June, therefore, the South-East Trades were not advancing freely over the Equatorial belt, and as conditions over India itself and in the north of the Arabian Sea were not unfavourable, it can only be surmised that the causes of the failure lay either in the Equatorial belt or to the south of it. During July the data for the Equatorial belt was very scanty, but seemed to indicate that the abnormal conditions in that area which held in the latter part of June had to a large extent disappeared by the end of the first week of July, and that thereafter the winds were more or less normal in direction, if somewhat below their normal strength. The monsoon held strongly during the first three weeks of August, and during that period pressure was almost continually in defect in Upper India, while normal or in slight excess over the south of the Peninsula. On the 25th, 26th and 27th pressure rose briskly to rapidly over the greater part of North-West India and in Bengal and Assam, being apparently connected with large actions of a general nature taking place to the north of the Indian region. At the same time pressure remained relatively low in South Arabia. In consequence of these changes the isobars in the Arabian Sea altered considerably in direction, running about north-east and south-west instead of lying approximately east and west, as during the preceding weeks of the month. The winds were hence much more southerly than usual in the west of the Arabian Sea, while in the east of the Arabian Sea they were veering to north-westerly directions, as they usually do during breaks in the rains. The rain-bearing currents hence failed to penetrate inland, and the rainfall became much lighter and less general. At the beginning of September, therefore, pressure was in large excess over the Konkan Coast and in Kathiawar and Gujarat and in slight to moderate excess over the remainder of the country, while normal or in only slight excess in South Arabia, conditions which led to an abnormal deflection of the monsoon winds to South and South-East Arabia and gave north-westerly winds in the east of the Arabian Sea and on the West Coast. These conditions held without important modification till the 7th or 8th of September, when pressure rose over the greater part of India, more especially in the north of India, and, coincidently, the monsoon currents withdrew from the greater part of North-West India. Subsequent brisk to rapid rises in North-West and North-East India still further increased the excess of pressure, with the result of still further circumscribing the area of rainfall. By the 15th of September pressure was lowest in North-West Bengal and westerly or north-westerly winds were holding over the greater part of Upper India, the rainfall being confined

to Burma and South India, except for a few scattered showers in Bengal. On this date pressure was in considerable to large excess over nearly the whole of Northern India and in the northern half of the Peninsula, the area of largest excess comprising Lower Sind, Gujarat and the western districts of the Central India Plateau and the adjacent districts of the Satpuras. Pressure was about normal in the south of the Bay and in the extreme south of the Peninsula. In consequence of these abnormal features of the pressure distribution, pressure was unusually uniform in the Bay, and during the succeeding days a depression formed in that area of uniform pressure, which, subsequently crossing the coast near Vizagapatam, marched by a curved path north-west to the Nepal hills, where it broke up on the 25th. This storm gave good rain to the districts in its track and fairly general rain to the greater part of North-East India. Pressure rose briskly after the disappearance of this storm and by the end of the month was in considerable to large excess over the head of the Peninsula and in Upper India generally, the excess being most marked in Sind and at the foot of the Nepal hills.

The most important abnormal feature of the pressure distribution during the month of September was, therefore, the steady excess of pressure over the Indian region, most marked over the West Satpuras, Khandesh, Kathiawar and Gujarat and the north-east of the Arabian Sea. It is doubtful if this feature was connected with actions taking place in the areas to the north of India. For, although pressure was on the mean of the month of September about an eighth of an inch in excess at Tashkent, it was in only very slight excess during the first half of the month and was in large excess only during the third and fourth weeks. In India, on the other hand, the excess of pressure was more marked in the first than in the second half of the month. It seems probable that the abnormality may have been connected to some extent with the relatively low pressures in South Arabia (denoted by Aden) towards which the monsoon currents seem to have been largely deflected and to have thus failed to advance towards India with their usual strength. If this were so, the excess of pressure over the north-east and north-west of the Arabian Sea (for pressure was on the mean of the month of September in almost as large excess at the mouth of the Persian Gulf as over Kathiawar) may have been, in part at least, a consequence of the deflection of the currents and the lack of the usual ascensional air movement. The excess, however, once established, would naturally re-act on the general conditions and accentuate the abnormal deflection of the winds.

Early in October the pressure distribution altered very considerably. A widely-extended downward movement of pressure began on the 1st, apparently related to (1) the development of a depression in the Bay, (2) the appearance of disturbed conditions off the West Coast, and (3) the advance of a depression from the areas to the north-west of India, which seemed to be related to the eastward advance of a low pressure area from the Trans-Caspian region. The influence of the storm in the north-west of the Punjab was most marked on the 3rd, when pressure was about ·150" below normal in the West Punjab. On this day pressure was in defect over the whole of India, the defect being considerable to large in the west of the Punjab, slight in North-East India and over the head of the Peninsula, and moderate in the Bay area. The conditions of low pressure thus initiated persisted with only slight alterations throughout the month. Thus on the 6th the first indications showed of the advance of a second depression from the north-west and by the 7th pressure was again in large defect in the north and west of the Punjab, while on that date in the north-east of the Bay pressure was about a fifth of an inch in defect in consequence of the movements of the depression in that area. A brisk to rapid recovery of pressure began on the 8th, and continued on the 9th, as the influence of the depressions in the Bay and in North-West India passed away.

On the 15th pressure began to fall slightly in the east of Burma and over the Mergui Peninsula, and it is possible that this fall may have been connected with the movements of a cyclone in the China Sea which passed westwards from Luzon and Manilla on the morning of the 14th. On the 16th the fall in Burma was brisk to rapid, and there were slight indications of the initiation of a cyclonic circulation of the winds in Lower Burma round a centre lying towards the east. Pressure was now very uniform over the whole of Burma. On the 17th the cyclonic circulation over the south-east of Burma was clearly marked and there were indications of the existence of a low pressure area to the east of Moulmein. By the 18th the centre was near the Gulf of Martaban, but by this time it was only a very feeble disturbance and seemed to have but little influence on the weather. On the 19th and 20th pressure fell rapidly over an immense area, extending from Upper Burma to Chitral and Kashgar. And it may be also noted that on the 20th pressure fell about a fifth of an inch at Nertchinsk, in the east of the Baikal region. The data are insufficient to enable the true nature of this widely-extended action to be fully determined, but its effect was to reduce pressure very largely below normal in Upper India, the defect being especially marked and equal to a fifth of an inch in the west and north-west of the Punjab and at the foot of the Kumaon hills. From these areas the defect diminished south-westwards to the West Coast, where pressure was about normal. A rapid rise of pressure set in on the 21st and continued till the 23rd, when pressure was normal, or in slight excess over practically the whole country. Another low pressure area advanced over North-Western India about the 25th and was followed by another about the 28th, which temporarily reduced pressure considerably to largely below normal in North-Western India. By the end of the month, however, pressure had risen and was practically normal over the whole country.

The most important feature of the weather during the month of October seems, therefore, to have been the unusual number of deep depressions which affected the conditions in the extreme north of India, and, so far as can be judged from the scanty data, still more markedly the mountain areas to the north, for the pressure and other changes at Chitral, Gilgit and Kashgar were frequently greater than those showing in North-West India. The true nature of these actions, however, cannot be determined with certainty, although they seem to have been

mainly confined to the area lying between India and the Pamirs, for in Turkestan and Central Asia generally pressure was on the mean of the month in moderate to large excess. The excess was, it may be noted, greatest in the east of Russia, where also pressure was, on the mean of the month highest. The following gives data in illustration:—

Station.	PRESSURE DATA FOR OCTOBER, 1901.			
	Mean pressure of the month. Mm.	Normal pressure of the month. Mm.	Variation from normal. Mm.	Variation from normal. Inches (approximately).
Perm	772·7	763·3	+9·4	+·376
Oufa	774·4	764·8	+9·6	+·384
Orenburgh	775·0	766·8	+8·2	+·328
Tashkent	773·3	766·4	+6·9	+·276
Barnaul	771·9	767·3	+4·6	+·184
Irkutsk	770·5	767·9	+2·6	+·104
Leh	19·817*	19·775*	.....	+·042*

* Inches.

The above shows that on the mean of the month the main centre of the Central Asian high pressure area was displaced considerably towards the west, showing in the neighbourhood of Orenburgh instead of in its usual place, between Lakes Baikal and Balkash. This fact may have been related to the persistent low pressure which obtained in Upper India during October, but in the absence of adequate data for the region intervening between the Indian and Russian systems it is impossible to determine this point with certainty.

An important feature of the pressure distribution, which persisted throughout the whole of the period of the retreating south-west monsoon and showed also in September, was the relative excess of pressure over the Deccan and the centre of the Peninsula, as compared with the general deficiency of pressure in Upper India. The following gives data:—

Meteorological Province.	Pressure anomaly. September, 1900.	October, 1901.	November, 1901.	December, 1901.	Mean of period, October to December, 1901.	Mean of period, November and December.
	"	"	"	"	"	"
Burma Coast and Bay Island.	—·012	—·003	+·010	0	+·002	+·005
Burma Inland	+·007	—·001	+·009	—·004	+·001	+·003
Assam	—·010	—·011	+·014	—·003	0	+·006
Bengal and Orissa	—·013	—·012	—·001	0	—·004	—·001
Gangetic Plain and Chota Nagpur..	+·001	—·013	—·003	—·005	—·007	—·004
Upper Sub-Himalayas	—·008	—·014	+·004	+·004	—·002	+·004
Indus Valley and North-West Rajputana.	0	—·017	—·005	—·004	—·009	—·005
East Rajputana, Central India and Gujarat.	+·024	+·001	—·005	—·011	—·005	—·008
Deccan	+·021	+·006	+·006	+·006	+·006	+·006
West Coast	—·011	+·029	—·001	—·002	+·009	—·002
South India	—·013	+·009	—·010	+·004	+·001	—·003
General anomaly for whole of India.	+·045	—·025	—·010	+·019	—·005	+·005

It is probable that this feature was closely connected with the first three of the abnormal features of the weather of the retreating monsoon period mentioned on page 973, namely, the delay in the establishment of the retreating south-west monsoon rains on the Madras Coast and the unusually early retreat of the south-west monsoon currents from the south of the Bay, as well as the unusual tracks of the cyclonic storms during October and November. In consequence of this abnormal feature westerly winds held on the East Coast of the Peninsula much later than usual and the north-easterly currents in the west of the Bay area were generally weaker than usual. The storms of the period showed a marked tendency to move in a northerly or north-easterly direction up the East Coast, instead of passing into the Peninsula, a feature which was very probably related to the fact that the winds feeding into the storm area in the western quadrant were dry land winds from the north, and not humid winds from the Arabian Sea.

APPENDIX.

The following is a brief statement of the hailstorms which occurred during the year 1901 in the Punjab, the United Provinces, Assam, the Central Provinces, Central India and Bombay, the reports of which were received too late to be given in the storm sections of the Monthly Weather Reviews of the year:—

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
1901.	PUNJAB.						
Mar. 6	Three villages in the Pindi Gheb tahsil of the Rawalpindi district.						Damaged crops severely.
„ 11	Ten villages of the Sialkot district.						Damaged the Rabi crop seriously necessitating remission of revenue to the extent of 1,078 rupees.
„ 29 and 30.	Thirteen villages of Rawalpindi district.						Damaged crops of eight villages severely.
Mar. 31	Two villages of the Shahpur district.						Damaged crops.
Apl. 13	Three villages in the Pindi Gheb tahsil of the Rawalpindi district.						Damaged crops severely.
„ 13	Two villages in the Mansehra tahsil of the Hazara district.						Damaged crops more or less seriously.
„ 13	Twenty-eight villages in the Charsadda and Peshawar tahsils of the Peshawar district.					Severe	Damaged crops severely.
„ 13 and 14.	Three villages in the Chakwaldhanni and Talagang tahsils of the Jhelum district.						Damaged crops necessitating remission of revenue amounting to 236 rupees.
Sept. 11	About 13 square miles in the Haripur tahsil of the Hazara district.						Damaged crops.
„ 12	Four villages in the Pathankot tahsil of the Gurdaspur district.						Damaged crops necessitating remission of revenue to the extent of 462 rupees.
1901.	PUNJAB—*contd.*						
Sept. 12	Two villages in the Rawalpindi tahsil of the Rawalpindi district.						Damaged crops.
„ 12	Ten villages in the Palampur tahsil of the Kangra district.						Damaged crops severely necessitating remission of revenue to the extent of 599 rupees.
1901.	UNITED PROVINCES.						
Feb. 5	Tahsil Pilibhit of the Pilibhit district.	6 to 6½ P.M.	30 minutes.		About a chhattak in weight.		No information.
„ 6 and 7.	Whole district of Sultanpur.		2 minutes.		Pea		Damaged crops slightly.
Feb. 6	Haraia, Basti, Domariaganj and Bansi tahsils of the Basti district.	3 to 4 A.M.	About an hour.				Damaged crops to the extent of 4 to 12 annas.
„ 6 and 7.	About five villages in Karwi Subdivision of the Banda district.	4 P.M. on 6th and 7 A.M. on 7th Feb.	About 6 or 7 minutes.	NW	About the size of a betelnut.		Damaged crops to the extent of 4 to 16 annas.
Feb. 6 and 7	750 acres in tahsil Bara and 473 acres in tahsil Meja district, Allahabad.		30 minutes.	W	2 to 3 tolas in weight.	moderately severe.	
Feb. 18	About 26 square miles in the Sadabad tahsil of the Muttra district.						Damaged crops to the extent of 4 to 12 annas.
Mar. 7	Five villages in the Banda Parganna of the Banda district.			W	Pigeon's eggs.		Damaged crops severely to the extent of 4 to 16 annas.
„ 7	Domariaganj, Bansi and the northern part of the Basti tahsils of the Basti district.	Between 3 and 4 P.M.					Damaged crops to the extent of 4 to 12 annas.

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
	United Provinces—*contd.*						
1901. Mar. 7	Seven parganas of the Cawnpore district.		12 minutes.		About the size of a betelnut.		Damaged crops to the extent of 2 to 16 annas.
Mar. 7	288 villages of the Fatehpur district.	3 to 4 P.M.	30 minutes.	NW			Damaged crops severely in 101 villages.
„ 7	726 acres in tahsil Meja of the Allahabad district.		30 minutes.	W	4 to 5 tolas in weight.	Severe	No information.
„ 7	116 villages in Hamirpur district.						
„ 7	Three parganas of the Gonda district.		30 minutes.		1⅜″ in diameter.		No information.
	Assam.						
1901. Jan. 10	Between Panigaon and Goromur, Mauza Telahi.		45 minutes.	NE			No information.
	Central Provinces.						
1901. Jan. 17	About 85 square miles in the Seoni district.		30 minutes.	NW	From about one tola to 1½ chhattaks in weight.	Severe	Damaged crops severely in nine villages.
Feb. 7	About 65 square miles in the Lakhnadon tahsil of the Seoni district.		About 20 minutes.	W	From ½ tola to one chhattak in weight.	Severe	Damaged crops severely in nine villages.
„ 18	Wardha, Arvi and Hinganghat tahsils of the Wardha district.		About one hour.		½″ diameter.	Moderately severe.	Damaged crops to the extent of 2 to 8 annas.

Date. Day, month and year.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
	Central Provinces—*contd.*						
1901. Mar. 4	Eight villages in Hoshangabad tahsil and about 150 square miles between the Seoni and Harda tahsils of the Hoshangabad district.	About 4 P.M.			Large		Damaged crops to a certain extent.
„ 4	225 villages in the Betul district.		From 15 to 45 minutes.	NW	Hen's egg.		Damaged crops to the extent of 1 to 12 annas.
	Central India.						
1901. Jan. 7	Seven parganas in Gwalior State.						Damaged crops to the extent of 4 annas in Mauzas Badi and Sena Talai of Pargana Singoli.
„ 12 and 13.	Dhar, Ali Rajpur, Barwani and Dewas States.						No information.
Feb. 17	Five villages in Mow pargana of the Chhatarpur State, Bundelkhand.	10 P.M.	2 hours		Of the size of a mango.		Damaged crops to the extent of 4 to 16 annas.
„ 18	Four villages in the Jigni Jagir of the Bundelkhand Agency.		One hour.		Small.		
„ 18	Fourteen parganas in the Orchha State of Bundelkhand Agency.		One to 2 hours.		From 12 chhattaks in weight.		Damaged crops in two parganas to the extent of 4 to 8 annas.
	Bombay.						
May 13	252 Square miles in Talaka Mahad of the Kolaba district.	2 P.M.	30 minutes.		About an inch in diameter.	Moderate.	No information.

TABLE I.—Abstract of Observations taken at 8 A.M. at 218 Stations in India, Burma, etc., in the year 1901.

Table

Abstract of observations taken at 8 A.M

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of Air.									
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and to correct for gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	I.—Burma Coast and Bay Islands.				−·004							87·8	+0·3	74·2	+2·1	81·0	+1·2	13·6			38·5	21·9
1	Tenasserim and Bay Islands.	Car Nicobar	25	29·819†		29·772†	29·982	29·620	·362	·170	80·9	86·7		77·2		82·0		9·5	94·8	69·2	25·6	15·6
		Port Blair	61	29·857	+·007	29·849	30·014	29·644	·370	·157	81·0	87·3		78·0		82·9		9·8	97·0	70·9	26·1	16·5
		Mergui	96	29·835	+·002	29·863	30·000	29·622	·378	·152	78·4	87·2	−0·2	73·6	+3·0	80·4	+1·4	13·6	95·6	59·3	36·3	21·2
		Tavoy	26	29·904	−·019	29·860	30·079	29·670	·409	·152	76·6	86·0	+0·1	72·3	+1·3	80·2	+0·7	15·7	99·7	55·5	44·2	24·0
		Moulmein	94	29·828	−·009	29·840	30·023	29·609	·414	·163	77·9	89·0	+0·9	73·6	+1·5	81·3	+1·2	15·4	99·4	61·4	38·0	24·2
2	Lower Burma	Rangoon	41	29·8457	?	29·823†	30·059	29·623	·436	·179	76·7	89·3	?	73·6	+0·9	81·5	?	15·7	104·1	57·7	46·4	24·7
		Bassein	27	29·885	+·001	29·847	30·090	29·604	·486	·179	77·2	89·2	+0·3	74·2	+2·4	8·2	+1·5	14·1	101·2	60·2	41·0	22·8
		Diamond Island	41	29·862	−·008	29·838	30·054	29·584	·470	·177	80·7	85·2	?	77·4	+2·4	81·3	?	7·8	91·6	68·2	23·4	15·1
5	Arakan	Akyab	20	29·868	−·007	29·831	30·118	29·511	·597	·225	76·0	86·8		71·4		79·1		15·5	97·9	49·6	48·3	25·2
3	Central Burma	Toungoo	183	29·723	+·003	29·684	29·939	29·482	·457	·165	77·5	89·6	?	70·2	0	79·9	?	19·4	106·1	50·6	55·5	29·9
	II.—Burma Inland				+·009							90·4	+0·3	69·7	+1·0	80·1	+0·7	20·7			61·2	32·1
3	Central Burma	Thayetmyo	130	29·775	+·011	29·847	30·033	29·479	·554	·193	77·2	92·0	+0·3	70·8	+1·2	81·4	+0·8	21·2	108·4	46·8	61·6	32·9
4	Upper Burma	Mhobu	165	29·737	+·006	29·847	30·017	29·433	·584	·199	76·7	91·9	?	72·1	+1·7	82·0	?	19·8	109·6	51·5	58·1	31·0
		Yamethin	657	29·236	+·009	29·250	29·476	28·973	·503	·183	76·0	92·4	+0·5	70·4	+1·7	81·4	+1·1	22·0	112·6	48·7	63·9	34·7
		Mandalay	250	29·643	+·011	29·845	29·948	29·341	·607	·219	78·1	96·7	+1·5	72·2	+1·4	83·0	+1·5	21·5	110·6	54·2	60·4	32·0
		Kindat	377	29·520	+·015	29·360	29·834	29·181	·653	·236	71·6	86·4	−0·1	67·2	+0·3	76·8	+0·1	19·2	105·8	45·8	60·0	30·0
		Bhamo	381	29·504	+·002	29·849	29·802	29·186	·616	·225	70·6	86·0	−0·5	65·6	+0·6	75·8	+0·1	20·4	103·5	40·2	63·3	3·7
4(a)	Burma Hill Stations.	Maymyo		26·411*			26·624	26·199	·425	·184*	65·7	78·8		59·1†		69·2†		20·1†	93·0	35·8	57·2	30·7†
		Taunggyi									65·2	75·6	−1·5	56·3	?	66·1		19·5	91·6	33·1	58·5	33·6
		Lashio									66·5	82·9	+1·3	60·8	+1·2	71·9	+1·3	22·1	96·5	38·1	58·4	33·3
	III.—Assam				+·004							84·0	+0·5	67·3	+0·3	75·6	+0·4	16·7			52·6	27·7
7	Surma	Silchar	104	29·794	+·009	29·852	30·110	29·376	·734	·248	72·9	87·4	+1·7	67·6	+0·1	77·5	+0·9	19·8	100·1	45·5	54·6	30·9
9	Brahmaputra	Sibsagar	333	29·571	+·002	29·869	29·951	29·212	·679	·255	69·4	81·2	−0·8	66·3	+0·4	73·8	−0·2	14·9	95·2	44·9	50·3	26·0
		Dhubri	115	29·755	0	29·828	30·101	29·227	·754	·266	71·8	83·3	+0·3	67·9	?	75·6	?	15·4	100·7	47·8	52·9	26·2
	IV.—Bengal and Orissa				+·003							87·2	+0·8	69·7	+0·6	78·5	+0·7	17·6			57·5	29·8
6	East Bengal	Chittagong	87	29·790	−·006	29·827	30·077	29·360	·717	·239	75·4	86·3	+2·0	69·5	0	77·9	+1·0	16·8	99·5	48·6	50·9	27·6
		Noakhali	43	29·828		29·818	30·128	29·396	·732	·236	75·7	87·7		68·8		78·3		18·9	105·1	44·9	60·5	32·7
		Comilla	36	29·811		29·826	30·150	29·414	·736	·247	75·4	87·5		68·8		78·2		18·7	102·3	47·1	55·2	30·5
		Sirajganj	49	29·802		29·801	30·146	29·367	·779	·251	73·0	86·2		69·0		77·6		17·2	106·5	47·4	59·1	28·8
		Narayanganj	26	29·842	+·001	29·816	30·157	29·401	·756	·255	75·5	86·3	?	70·7	+0·4	78·5	?	15·6	100·1	49·7	50·4	26·1
		Barisal	13	29·935†	−·002	29·783†	30·172	29·385	·787	·258	76·8	86·3	+1·1	70·8	+0·6	78·6	+0·9	15·5	100·3	49·2	51·1	27·3
		Mymensingh	59	29·804	?	29·815	30·125	29·396	·729	·242	73·4	84·9	+0·5	69·0	+1·1	77·0	+0·8	15·9	99·4	47·4	52·0	26·4
10	Deltaic Bengal	Faridpur	46	29·821		29·816	30·150	29·373	·777	·264	74·7	86·6		69·0		77·8		17·5	101·8	47·0	54·8	29·8
		Jessore	33	29·823	−·001	29·804	30·153	29·351	·802	·270	75·8	87·6	?	69·8	?	78·7	?	17·8	105·5	46·1	59·4	30·4
		Calcutta	21	29·835	−·001	29·803	30·163	29·345	·818	·281	76·2	87·8	+1·5	70·8	+0·3	79·3	+0·9	18·0	108·2	50·1	58·1	28·6
		Saugor Island	25	29·827†	0	29·796†	30·165	29·355	·810	·272	77·5	86·2	+0·8	73·7	+0·1	80·0	+0·5	12·5	99·4	50·0	49·4	24·9
		Krishnagar	47	29·814		29·810	30·186	29·330	·856	·287	75·7	88·4		69·4		78·9		19·0	109·1	46·9	62·2	32·1
		Midnapore	149	29·657		29·800	30·061	29·253	·808	·259	76·2	89·0		70·6		79·8		18·4	112·4	50·2	62·2	32·1
11	Central Bengal	Bankura	258	29·528†		29·782†	29·881	29·078	·803	·259	75·8	89·3		70·5		79·9		18·8	113·6	49·6	64·0	33·2
		Raniganj	334	29·509		29·799	29·864	29·061	·803	·262	74·6	89·4		69·8		79·7		19·6	113·8	49·2	64·6	33·1

* Mean of 10 months. † Mean of 11 months.

I.

at 218 stations in India, Burma, etc., in the year 1901.

Wind direction. Number of winds from: Calm.	N	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Wind velocity. Mean velocity in miles per hour by anemometer (uncorrected).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Hygrometry, 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of district.
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
																			140·58	139·77	+4·40		I.—Burma Coast and Bay Islands.		
47	22	58	41	29	23	65	24	4	4·5	4·5			86	·883	8·3	122			108·20			5·93	Car Nicobar**	Tenasserim and Bay Islands.	1
16	27	54	9	39	17	60	37	51	8·3		7·4	+12	86	·911	5·7	140			132·77	117·66	+15·11	5·80	Port Blair. ††		
354	4	1		1	3	2			2·2	2·0	1·8	+11	88	·844	4·3	159			190·64	170·46	+20·18	5·05	Mergui.		
344	3	2			4	6	3	3	1·0				90	·836	2·3	160			191·30	198·52	− 7·22	5·72	Tavoy.		
5	25	53	13	63	34	110	20	37	2·5	2·3	2·3	0	84	·805	4·7	147	137·53	+ 9·13	182·46	181·34	+ 1·12	6·53	Moulmein.		
8	16	24	23	19	42	92	60	13	4·5		4·4	+ 2	87	·822	5·7	126	116·84	+ 9·16	98·49	95·27	+ 3·22	6·24	Rangoon‖	Lower Burma	2
107	8	48	7	29	27	40	16	83	4·3		3·8	+13	88	·833	4·4	117	131·49	−14·49	98·42	109·54	−11·12	4·53	Bassein.		
48	38	57	38	14	26	61	43	40	3·8	3·8	7·1	+24	80	·866	4·9	113	120·44	− 7·44	118·12	118·49	− 0·37	5·56	Diamond Island.		
8	102	102	69	41	28	10	3	2	2·2		3·7	−41	89	·816	4·6	122	119·52	+ 2·48	204·44	186·90	+17·54	8·81	Akyab	Arakan.	5
50	42	23	5	142	51	7		39	4·1	4·1	3·0	+37	83	·803	5·6	119	112·67	+ 6·33	80·91	79·74	+ 1·17	3·08	Toungoo.§	Central Burma.	3
																			43·16	46·40	+1·76		II.—Burma Inland.		
81	31	19	8	60	113	22	7	24	4·6		5·1	−10	78	·741	3·6	69	76·12	− 7·12	37·82	37·72	+ 0·10	4·00	Thayetmyo	Central Burma.	3
20	20	4	6	178	29	4	6	98	6·2	7·3			76	·724	4·4	55			34·97	27·60	+ 7·37	3·59	Minbu	Upper Burma.	4
82	40	3	1	140	69		2	28	4·3	4·6			80	·731	4·8	62			44·86	34·08	+10·78	3·65	Yamethin.		
75	42	7	5	22	183	20	5	6					72	·701	1·7	44			31·06	33·74	− 2·68	3·01	Mandalay.		
305	10	12	10	5	8	6	5	3	0·8	0·8			89	·716	4·9	86			81·65	71·55	+10·10	6·04	Kindat.§		
157	22	73	23	4	2	20	19	43	2·2	2·6			88	·683	4·8	92			58·61	73·74	−15·13	2·33	Bhamo.¶		
141	7	28	7	7	27	63	19	6	3·9*				82	·538	5·3*	86†			51·59			2·21	Maymyo‡	Burma Hill States.	4(a)
1	24	33	44	46	95	30	25	7					82	·527	5·2	111			63·13	63·24	− 0·71	3·02	Taunggyi.		
	39	93	32	33	48	59	14	46	0·8				86	·580	6·9	94			61·52	57·90	+ 3·62	2·66	Lashio.		
																			89·16	104·89	−15·73		III.—Assam.		
340		5	14	1	1		1	3	0·9	1·6	2·7	−41	86	·735	5·6	118	138·78	−20·78	105·40	125·27	−19·87	4·75	Silchar	Surma.	7
147	30	112	2	28	3	30	2	11	2·1	1·9	2·4	−21	95	·715	3·0	131	129·25	+ 1·75	91·15	96·09	− 4·94	3·75	Sibsagar	Brahmaputra.	9
33	15	92	143	17	17	36	4	7	4·2	4·9	4·7	+ 4	97	·707	4·3	94	92·21	+ 1·79	70·93	93·30	−22·37	5·15	Dhubri.		
																			68·29	72·72	−4·43		IV.—Bengal and Orissa.		
	38	123	35	104	47	5	3	10	5·8	5·8	5·1	+14	83	·750	4·7	80	98·72	−18·72	85·05	105·33	−20·28	6·70	Chittagong	East Bengal.	6
	70	48	70	47	60	33	21	16	4·0	3·7			85	·785	4·3	120	107·53	+12·47	126·87	118·17	+ 8·70	8·80	Noakhali.		
83	40	4	18	53	141	8	9	9	5·1				81	·741	4·6	95	101·88	− 6·88	77·06	89·25	−12·19	7·60	Comilla.		
229	11	10	31	27	35	11	2	9	1·1	1·2			88	·747	5·2*	69	78·58	− 9·58	71·81	61·53	+10·28	7·35	Sirajganj.		
56	18	25	36	35	66	27	16	36	5·3		4·5	+18	86	·736	5·7	85	94·47	− 9·47	74·92	73·61	+ 1·31	6·10	Narayanganj.		
26	36	38	9	65	81	45	12	53	3·6				85	·813	4·3	96	99·79	− 3·79	78·76	78·16	+ 0·60	6·00	Barisal.		
205	3	1	51	75	10	4	3	13	1·1	1·1			86	·738		106	104·22	+ 1·78	140·49	87·15	+53·34	8·45	Mymensingh.		
198	20	4	6	52	77	6	1	1	1·3	1·2			88	·821	3·5	87	89·26	− 2·26	70·89	68·51	+ 2·38	4·52	Faridpur.	Deltaic Bengal.	10
243	23	7	6	30	29	9	6	7	2·4	2·6	3·2	−19	85	·791	4·2	36	88·78	− 2·78	59·74	65·46	− 5·72	6·20	Jessore.		
61	43	23	28	36	52	68	22	32	4·6		4·8	− 4	83	·777	4·5	76	85·24	− 9·24	70·11	63·66	+ 6·45	5·54	Calcutta.		
2	67	55	17	15	73	80	30	26	12·6		10·7	+18	86	·836	5·3	87	83·03	+ 3·97	72·65	71·84	+ 0·81	4·04	Sangor Island.		
12	27	25	38	41	76	37	55	54	3·5				81	·752	4·4	73	74·24	− 1·24	54·72	54·06	+ 0·66	4·46	Krishnagar.		
51	94	22	9	26	98	24	10	31	3·4	3·5			79	·734	2·9	90	75·89	+14·11	65·80	55·80	+ 9·95	3·30	Midnapore.		
151	4	20	17	38	13	31	57	33	2·3	2·6			72	·664	3·8	75	79·04	− 4·04	54·89	56·24	− 1·35	7·37	Bankura §	Central Bengal.	11
191	21	14	25	22	13	16	19	44	1·4				76	·676	3·4	70	73·02	− 3·02	50·17	54·29	− 4·12	4·70	Raniganj.		

‡ Wind observations of 305 days. § Wind observations of 364 days. ‖ Wind observations of 303 days. ¶ Wind observations of 363 days.

** Wind observation of 313 days.

†† " " of 360 "

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of air.										
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and to constant gravity, 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
11	Central Bengal —*concld.*	Burdwan	99	29·756	+·006	29·804	30·108	29·285	·823	·269	75·7	89·2	+0·4	70·9	+0·5	80·1	+0·5	18·3	111·5	50·0	61·5	31·8
		Naya Dumka	489	*29·330?		*29·784?	29·701	28·915	·786	*·267	75·1	87·8		63·7		79·2		19·1	112·4	46·4	66·0	32·6
		Berhampore	67	29·788	+·002	29·805	30·152	29·336	·816	·268	74·9	93·2	+0·4	69·9	+0·4	79·1	+0·4	18·3	107·5	47·1	60·4	31·0
		Rampur Boalia	70	29·782		29·803	30·143	29·337	·806	·266	75·5	85·8		69·5		78·1		17·3	106·0	47·3	58·7	29·4
		Malda	72	29·774		29·800	30·152	29·334	·818	·262	74·2	87·0		63·3		77·7		18·7	106·4	45·8	60·6	31·5
		Bogra	61	29·791		29·805	30·146	29·375	·771	·243	73·4	87·1	+1·1	63·6	+0·3	77·9	+1·0	18·5	106·3	46·2	60·1	30·1
12	North Bengal	Dinajpur	123	29·726	+·003	29·807	30·071	29·308	·763	·289	71·7	86·7	+0·3	66·5	?	76·6	?	20·2	106·2	42·9	63·3	32·7
		Rangpur	123	29·752?		29·833	30·088	29·352	·736	·260	72·5	85·9		66·9		76·4		19·0	105·2	44·3	60·9	31·4
		Jalpaiguri	284	29·587	+·011	29·836	29·924	29·182	·742	·267	71·0	84·4	+0·5	66·5	+1·3	75·5	+0·9	17·9	98·7	46·1	52·6	28·0
		Cooch Behar	156	29·756†		29·873†	30·073	29·319	·754	·247†	71·5	84·3		67·2		75·8		17·1	98·6	45·7	52·9	27·8
17	North Bihar	Purnea	125	29·733	+·014	29·815	30·077	29·255	·782	·260	71·5	87·3	+0·6	66·9	+0·9	77·2	+0·8	20·4	107·3	41·5	65·8	33·0
14	Orissa	Balasore	48	29·812	?	29·806	30·178	29·372	·806	·277	76·1	89·0	+1·2	70·8	+0·6	79·9	+0·9	18·2	112·5	49·4	63·1	31·7
		False Point	21	29·940	+·004	29·803	30·175	29·420	·755	·262	77·2	85·9	+0·2	72·3	+0·2	79·1	+0·2	13·6	101·5	52·0	49·5	26·0
		Cuttack	80	29·778	+·004	29·802	30·119	29·368	·751	·256	76·7	91·3	−0·1	73·1	+0·7	82·2	+0·3	18·2	111·5	54·1	57·4	30·0
		Puri	20	29·842		29·804	30·180	29·440	·740	·246	78·2	86·6		74·6		80·6		12·0	97·2	57·6	39·6	23·1
	V.—Gangetic Plain and Chota Nagpur.				+·004							88·6	+0·4	67·6	+0·6	78·1	+0·6	21·2			67·3	34·7
15	Chota Nagpur	Hazaribagh	2,007	27·834	+·007	29·810	28·120	27·452	·668	·229	72·6	84·7	+0·4	60·5	+1·1	75·6	+0·8	18·3	108·1	44·7	63·4	31·6
		Ranchi	2,128	27·711	+·008	29·804	27·983	27·327	·656	·223	72·1	84·1	+0·3	66·2	+1·6	75·2	+0·9	17·9	107·8	43·8	64·0	31·2
		Daltonganj	730?	29·109		29·812	29·473	28·666	·807	·241	71·7	90·2		64·5		77·3		25·7	115·6	39·5	76·1	40·5
		Purulia		29·019		29·793	29·351	28·598	·753	·246	74·9	89·1		70·4*		80·6*		20·3*	115·8	49·5	66·2	34·4
		Chaibassa	760	29·076?		29·797?	29·413	28·654	·759	·249	74·6	89·2	−0·6	69·6	+1·0	79·5	+0·2	19·6	111·4	49·2	62·2	33·7
16	South Bihar	Gaya	375	29·465	+·001	29·800	28·821	29·006	·815	·244	75·5	90·2	+0·3	69·4	+1·0	79·8	+0·7	20·8	115·3	46·9	68·4	34·9
		Dehri	351	29·485		29·797	29·245	29·007	·838	·248	75·7	89·9		70·4		80·2		19·5	116·5	48·6	67·9	34·1
		Patna	183	29·659	−·008	29·798	30·032	29·184	·848	·248	75·0	88·2	+0·5	69·2	+1·0	78·7	+0·8	19·0	110·0	45·4	64·6	32·1
		Arrah	190	29·642		29·788	29·998	29·167	·831	·244	74·4	89·0		68·3		78·8		20·7	112·0	44·0	68·0	34·4
		Buxar	239	29·600		29·799	29·974	29·104	·870	·251	75·4	89·1		68·7		78·9		20·4	112·9	44·9	68·0	33·5
17	North Bihar	Bhagalpur	160	29·690		29·807	30·052	29·241	·811	·257	75·2	87·8		68·4		78·1		19·4	107·8	45·6	62·2	32·3
		Darbhanga	166	29·678	−·003	29·802	30·044	29·214	·830	·258	73·3	86·5	+0·9	68·7	+0·1	77·6	+0·5	17·8	103·3	45·8	57·5	29·1
		Muzaffarpur	178	29·678		29·814	30·040	29·261	·839	·260	73·6	86·9		67·1		77·0		19·8	104·2	43·3	60·9	31·3
		Motihari	224	29·627		29·814	30·002	29·143	·859	·269	73·1	86·8		65·2		76·0		21·6	104·0	41·0	63·0	34·3
		Chapra	181	29·661		29·800	30·012	29·182	·830	·247	73·8	88·9		67·7		78·3		21·2	110·1	45·1	65·0	33·1
18	United Provinces (East).	Benares	267	29·564	0	29·792	29·929	29·065	·834	·244	74·2	90·0	+0·3	67·6	+0·7	78·8	+0·5	22·4	117·3	44·9	72·4	37·3
		Allahabad	309	29·520	−·005	29·790	29·893	29·048	·845	·248	75·4	90·9	+1·0	67·3	+0·8	79·1	+0·9	23·6	118·2	41·9	76·3	38·6
23	United Provinces (East Submontane).	Gorakhpur	257	29·582	+·011	29·802	29·944	29·104	·840	·254	73·7	88·0	0	67·5	+0·4	77·8	+0·2	20·5	109·2	45·1	64·1	33·1
19	South Oudh	Lucknow	368	29·457	?	29·782	29·821	28·970	·851	·253	73·0	90·3	+0·7	65·9	+0·5	78·1	+0·6	24·4	118·8	42·2	76·6	39·0
20	North Oudh	Bahraich	403	29·421	+·005	29·784	29·772	28·937	·835	·254	73·6	88·9	+0·3	66·1	+0·5	77·5	+0·7	22·3	114·2	41·6	72·6	37·2
21	United Provinces (Central).	Cawnpore	416	29·419	+·014	29·799	29·782	28·953	·829	·255	73·8	90·6	+1·2	66·0	?	78·3	?	24·6	117·1	42·0	75·1	35·6
		Mainpuri	516	29·310	+·010	29·797	29·683	28·836	·847	·257	73·1	90·8	+1·2	65·4	?	78·1	?	25·4	117·7	40·5	77·2	40·0
	VI.—Upper Sub-Himalayas				+·006							87·5	+0·1	63·7	+0·9	75·7	+0·5	23·8			76·1	39·0
24	United Provinces (West Submontane).	Bareilly	568	29·251	+·007	29·797	29·622	28·765	·857	·266	71·0	87·7	+0·1	65·3	+0·9	76·5	+0·5	22·4	115·0	41·7	73·3	36·5
		Dehra Dun	2,233	27·569	?	29·825	27·908	27·170	·738	·260	65·7	81·2	+0·5	50·3	−0·6	70·8	−0·1	20·9	107·5	38·5	69·0	34·5
		Roorkee	887	28·930	+·004	29·810	29·295	28·435	·860	·270	68·3	86·4	−0·7	51·7	−0·8	74·1	−0·8	24·7	114·7	36·9	77·8	39·2

* Mean of 11 months.

† Mean of 10 months.

I—*contd.*

at 218 stations in India, Burma, etc., in the year 1901—contd.

Wind direction. Number of winds from									Wind velocity.				Hygrometry, 8 A.M.		Mean cloud amount of year.	Rainfall.					Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of district.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer (uncorrected).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.		Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
105	32	30	29	17	35	45	34	33	2·9	2·9	3·3	−12	79	·737	4·6	67	77·92	−10·92	48·11	55·09	− 6·98	4·51	Burdwan,	Central Bengal —*concld.*	11
125	14	17	46	50	35	14	23	41	1·4	1·6			74	·663	4·7	68	80·12	−12·12	43·07	57·63	−14·56	3·25	Naya Dumka,		
185	10	7	26	16	57	21	22	21	1·7	1·8	3·5	−49	82	·738	4·5	69	79·14	−10·14	41·92	55·96	−14·04	2·93	Berhampore,		
138	30	24	12	39	35	34	32	21	2·6	2·6			80	·734	2·7	68	74·84	− 6·84	59·30	56·49	+ 2·81	10·50	Rampur Boalia,		
1	37	38	99	40	34	24	48	44	2·4	2·2			82	·727	3·8	59	69·27	−10·27	46·34	55·48	− 9·14	3·41	Malda,		
133	35		64	6	7								83	·724	3·5	30	81·51	− 1·51	77·82	67·33	+10·49	10·62	Bogra,		
	23	160	27	27	21	48	30	29	5·1	5·9			84	·691	4·4	72	77·00	− 5·00	46·89	69·86	−22·97	2·53	Dinajpur . .	North Bengal,	12
94	7	63	84	24	97	19	13	14	3·0	3·2			87	·724	2·8	78	80·33	− 2·33	61·92	82·19	−20·27	3·24	Rangpur,		
8	67	108	76	30	4	11	22	39	1·2	1·6			87	·684	2·1	108	100·58	+ 7·42	114·65	127·71	−13·06	8·66	Jalpaiguri,		
162	4	59	82	36	11	5	5	1	1·7	1·7			88	·707	5·1	107			109·63	131·10	−21·47	6·43	Cooch Behar,		
56	6	77	72	63	4	35	9	41	3·1	2·8	2·4	+17	84	·679	2·9	56	70·69	−14·69	41·85	64·10	−22·15	3·80	Purnea‡. . .	North Bihar.	17
121	50	17	4	3	40	91	21	23	3·7				79	·734	4·0	77	82·26	− 5·26	56·75	65·46	− 8·71	4·36	Balasore . . .	Orissa.	14
11	74	9	14	7	27	86	83	54	8·9	8·5	9·1	− 7	85	·833	5·2	66	74·39	− 8·39	57·55	69·97	−12·42	8·86	False Point,		
210	3	15	16		23	58	34	6	2·4		3·4	−29	81	·767	4·7	69	76·95	− 7·95	45·40	63·44	−18·04	2·51	Cuttack,		
77	82	34		4	4	119	12	33	10·6	10·0			83	·829	3·6	51	66·11	−15·11	43·56	56·77	−13·21	4·02	Puri,		
																			38·90	44·77	−6·49		V.—Gangetic Plain and Chota Nagpur.		
60	19	7	23	24	39	62	78	53	7·7	6·9	6·8	+ 1	63	·515	4·8	66	76·16	−10·16	43·15	52·36	− 9·21	3·17	Hazaribagh . .	Chota Nagpur.	15
49	17	21	24	21	41	57	55	30	5·6	6·6			68	·550	4·6	76	83·05	− 7·05	55·08	56·35	− 1·27	3·73	Ranchi,		
235	6	7	36	38	4	18	16	5	2·9	3·5			71	·567	2·2	61	63·44	− 2·44	36·60	45·56	− 8·96	2·66	Daltonganj,		
214	7	7	14	13	6	10	49	45	1·6				70	·622	3·1	78			51·97			3·65	Purulia . . .		
183	8	15	14	9	9	58	51	17	1·8	1·6			78	·679	3·4	74	76·20	− 2·20	51·45	53·92	− 2·47	4·29	Chaibassa.§		
66	13	54	12	37	58	30	37	8	5·7	5·1	2·6	+96	89	·630	4·0	57	57·30	− 0·30	44·22	44·94	− 0·72	5·76	Gaya . . .	South Bihar.	16
8	6	8	60	29	105	110	28	11	6·5	5·7			66	·595	3·7	42	54·90	−12·90	31·14	43·11	−11·97	3·35	Dehri.		
17	3	51	94	32	20	57	64	27	4·0	4·7	3·0	+57	74	·675	3·6	52	55·27	− 3·27	29·41	45·10	−15·69	3·12	Patna,		
99	38	10	55	12	7	17	90	37	2·6	2·7			74	·660	2·0	40	57·14	−17·14	32·82	43·85	−11·03	4·70	Arrah,		
15	10	9	117	22	19	27	132	14	5·4	4·9			68	·622	3·4	47	54·89	− 7·89	32·33	41·91	− 9·58	2·59	Buxar . . .		
97	5	42	60	46	19	45	34	17	3·4	3·2			74	·675	4·1	52	61·00	− 9·00	32·97	46·73	−13·76	2·23	Bhagalpur,	North Bihar.	17
85	7	21	88	73	12	18	38	23	3·1		3·6	−14	79	·675	3·2	43	58·42	−15·42	39·75	48·94	− 9·19	4·01	Darbhanga,		
242	1	16	47	32	1		13	12	1·4	1·2			85	·741	2·0	47	56·07	− 9·07	46·82	47·21	− 0·39	5·15	Muzaffarpur,§		
	6	41	158	26	17	37	44	26	4·0				92	·790	2·2	56	56·44	− 0·44	51·04	52·98	− 1·94	4·35	Motihari,		
74	5	18	105	31	10	60	45	17	2·7	3·4			76	·662	3·6	47	52·23	− 5·23	36·35	42·38	− 6·03	2·60	Chapra,		
142	1	15	49	25	9	74	43	7	2·3	2·7	3·9	−31	70	·612	3·5	50	50·49	− 0·49	32·05	39·40	− 7·35	3·26	Benares . .	United Provinces (East).	18
43	10	24	60	18	19	45	103	43	5·0	5·7	4·6		68	·606	3·5	40	48·47	− 8·47	33·63	39·44	− 5·81	3·75	Allahabad,		
66	49	85	36	12	24	25	38	30	1·8		2·5	−28	75	·652	3·4	47	52·29	− 5·29	43·98	51·35	− 2·37	5·47	Gorakhpur . .	United Provinces (East Submontane).	23
86	21	9	90	13	13	12	119	8	2·2	2·4	3·1	−23	70	·582	3·8	40	46·83	− 6·83	36·06	38·80	− 2·74	4·80	Lucknow . .	South Oudh.	19
87	24	13	117	24	4	11	29	56	3·5	3·4			76	·657	2·0	25			40·86	40·94	− 0·08	6·02	Bahraich . .	North Oudh.	20
148	14	23	25	25	6	45	57	19	2·8				66	·566	2·5	41	41·40	− 0·40	29·16	31·80	− 2·34	4·20	Cawnpore . .	United Provinces (Central).	21
169	9	4	52	9	11	8	89	13	1·5	1·5			62	·522	3·8	30			19·69	33·09	−13·40	2·35	Mainpuri,		
																			32·17	37·82	−5·06		VI.—Upper Sub-Himalayas.		
226	2	19	40	20	2	7	7	42	1·5	1·4	3·5	−60	73	·579	2·7	48	47·17	+ 0·83	39·69	49·61	− 9·92	4·67	Bareilly . .	United Provinces (West Submontane).	24
262	8	7	6	15	10	12	30	15	1·2		1·8	−33	70	·463	3·5	78	79·59	− 1·59	89·08	88·88	+ 0·20	6·08	Dehra Dun,		
241	5	7	10	59	15	3	5	20	2·4		2·5	− 4	71	·510	2·5	52	46·57	+ 5·43	41·07	43·82	− 2·75	4·72	Roorkee,		

‡ Wind observations of 363 days.

§ Wind observations of 364 days.

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Provinces or Districts.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M. in inches.								Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and to constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
22	United Provs., West.	Meerut	738	29·072	?	29·797	29·443	28·580	·863	·272	69·6	88·4	+0·7	63·7	+0·2	76·1	+0·5	24·7	114·8	41·2	73·6	38·4
26	South East Punjab	Delhi	718	29·104	+·005	29·802	29·502	28·622	·876	·272	72·8	88·6	−0·6	56·5	+1·4	78·6	+0·4	20·1	114·2	42·2	72·0	35·3
28	Central Punjab	Lahore	702	29·114	+·003	29·805	29·507	28·578	1·019	·331	69·7	89·7	+1·0	63·3	+2·0	76·5	+1·5	26·4	113·1	37·0	81·1	43·3
27	South Punjab	Sirsa	662	29·158	+·008	29·801	29·622	28·643	·979	·299	72·7	92·0	+0·4	64·6	+1·2	78·3	+0·8	27·4	116·8	36·0	80·8	43·0
		Patiala	818	29·011		29·818	29·393	28·507	·886	·285	70·4	86·6		63·0		74·9		23·6	115·0	36·5	78·5	38·7
29	Punjab (Submontane).	Ludhiana	812	29·004	+·006	29·807	29·430	28·494	·936	·292	69·8	87·3	−1·4	64·6	+1·4	76·0	0	22·7	116·8	39·1	77·7	38·7
		Sialkot	830	28·983	+·013	29·807	29·452	28·461	·991	·319	70·0	88·6	+1·1	64·3	+2·2	76·5	+1·7	24·3	119·0	37·0	82·0	42·0
		Umballa	892	28·923	+·017	29·810	29·318	28·426	·892	·284	67·8	86·5	−1·2	61·4	?	74·0	?	25·1	114·9	34·0?	70·9?	39·3
21	North Punjab	Rawalpindi	1,676	28·146	+·007	29·839	29·584	27·633	·951	·326	66·2	84·0	?						116·0			
	VII.—N.-W. Frontier Province, Indus Valley and North-West Rajputana.		...	...	+·004	...	...	...	...	...	...	92·3	+1·2	65·9	+0·8	79·1	+1·0	26·4	...	...	82·1	43·2
31	North Punjab	Peshawar	1,110	28·738	+·003	29·862	29·211	28·192	1·019	·339	67·6	85·7	+0·1	59·2	+0·3	72·5	+0·2	26·5	117·0	32·9	84·1	44·4
32	West Punjab	Khushab	612	29·213	?	29·813	29·722	28·662	1·060	·351	71·4	89·8	+0·6	64·4	+0·8	77·1	+0·7	25·4	118·4	36·4	82·0	42·6
		Montgomery	559	29·255	+·003	29·793	29·752	28·705	1·047	·338	73·6	91·7	?	64·3	+0·1	78·0	?	27·4	119·5	34·0	85·5	45·3
		D. I. Khan	594	29·245	−·006	29·804	29·771	28·665	1·106	·364	69·2	90·1	+0·1	61·7	−0·7	75·9	−0·3	28·4	118·7	34·0	84·7	46·2
		Mooltan	420	29·398	−·004	29·798	29·930	28·851	1·079	·344	71·9	93·2	+2·0	66·5	+1·9	79·9	+2·0	26·7	119·5	38·5	81·0	42·5
47	Sind	Jacobabad	186	29·630	+·002	29·782	30·114	29·090	1·024	·325	73·4	97·5	+2·5	65·1	+0·4	81·3	+1·5	32·4	126·0	34·0	92·0	50·5
		Hyderabad	96	29·752	+·017	29·802	30·226	29·234	·992	·291	74·6	94·1	+1·1	68·0	?	81·1	?	26·1	120·7	40·0	80·7	42·0
		Kurrachee	30	29·851	+·012	29·832	30·263	29·340	·940	·274	75·6	89·3	+1·2	70·7	+0·8	80·0	+1·0	18·6	116·4	42·2	74·2	36·0
51	West Rajputana	Bikaner	771	29·057	+·001	29·811	29·506	28·606	·900	·291	75·2	96·4	+1·9	69·5	+2·0	81·5	+1·9	23·9	116·9	41·1	75·8	40·1
		Pachpadra	380	29·513*		29·860*	29·892	29·041	·851	·282*	75·0	96·0		66·5		81·3		29·6	121·0	35·2	85·8	44·7
		Jodhpur	782	29·067		29·844	29·456	28·620	·836	·265	75·3	94·1		69·1		81·6		25·0	118·3	41·1	77·2	40·6
	VIII.—East Rajputana, Central India and Gujarat.		...	...	+·008	...	...	...	...	...	...	91·3	+1·7	68·4	+1·4	79·9	+1·6	23·0	...	...	69·8	37·2
50	East Rajputana	Jaipur	1,431	28·427	+·010	29·838	28·781	28·012	·769	·248	74·6	91·8	+1·8	66·8	+2·2	79·3	+2·1	25·1	116·2	40·5	75·7	41·5
		Kotah	819	29·022			29·407	28·602	·805	·243	77·0	93·2		70·6		81·9		22·5	117·1	45·5	71·6	38·6
		Sambhar	1,254	28·602	?	29·844	28·970	28·196	·774	·255	72·1	91·3	+2·6	65·8	+1·3	78·6	+2·0	25·6	115·0	40·0	75·0	41·7
		Ajmer	1,611	28·253	+·007	29·857	28·604	27·937	·757	·251	71·8	90·0	+1·5	66·3	+2·3	78·2	+2·2	23·8	114·4	37·9	76·5	39·3
		Udaipur	1,925	27·950?		29·856	28·248	27·580	·662	·222	72·7	88·6		64·9		76·8		23·8	110·1	38·2	71·9	38·5
		Deesa	466	29·407	+·015	29·836	29·751	28·994	·757	·228	76·4	95·8	+2·6	68·7	+2·0	82·3	+2·3	27·0	117·1	38·0	79·1	41·9
46	Kathiawar and Cutch.	Bhuj	395	29·486	+·012	29·840	29·846	29·041	·805	·246	76·9	92·5	+1·4	68·3	?	80·4	?	24·2	114·8	43·0	71·8	38·5
		Jamnagar	61	29·833		29·840	30·182	29·398	·784	·225	76·4	91·0		68·6		79·8		22·5	108·7	43·7	65·0	35·2
		Rajkot	429	29·459	+·013	29·849	29·782	29·045	·737	·210	74·9	93·9	+0·9	66·2	+0·3	80·1	+0·7	27·7	110·9	39·1	71·8	41·2
		Veraval	8	29·881	+·012	29·841	30·176	29·426	·680	·192	76·2	85·4	+0·5	71·4	+0·6	78·4	+0·5	14·0	104·7	49·3	55·4	27·4
		Dwarka	37	29·852		29·835	30·208	29·439	·769	·221	78·1	85·4		73·2		79·3		12·2	98·9	46·6	52·3	22·5
		Bhavnagar Para	55	29·859	+·001	29·842	30·160	29·472	·688	·209	76·7	94·9	+2·6	69·1	?	82·0	?	25·8	112·7	44·2	68·5	38·6
49	Central India	Nowgong	757	29·086	−·001	29·815	29·467	28·659	·808	·242	73·2	89·2	?	66·3	+1·1	77·8	?	22·9	115·0	41·5	73·5	37·5
		Indore	1,823	28·050	?	29·834	28·381	27·740	·641	·196	73·8	89·2	+1·7	64·7	+1·2	77·0	+1·5	24·5	111·3	40·6	70·7	38·3
		Neemuch	1,630	28·247	?	29·858	28·585	27·857	·728	·227	73·0	90·1	+1·5	65·2	+1·0	77·7	+1·2	24·9	112·1	39·1	73·0	39·5
45	Gujarat	Surat	39	29·864	?	29·836	30·147	29·508	·639	·203	77·8	92·4	+2·3	71·0	?	82·3	?	22·4	114·0	47·3	66·7	37·8
		Ahmedabad	163	29·722	?	29·835	30·086	29·312	·774	·224	78·2	96·0	+2·9*	71·8	+1·1	83·9	+2·1*	24·2	115·4	47·2	68·2	37·4
22	United Provs., West.	Agra	555	29·275	+·001	29·801	29·666	28·786	·870	·262	74·4	91·4	+1·0	69·0	+1·6	80·2	+1·3	22·4	114·5	43·4	71·1	36·4
21	United Provs., Central.	Jhansi	858	28·995	+·009	29·823	29·388	28·557	·831	·241	76·0	91·9	+1·2	71·0	?	81·5	?	20·9	115·4	46·7	68·7	5·1

* Mean of 11 months.

I—*contd.*

at 218 stations in India, Burma, etc., in the year 1901—contd.

Wind direction. Number of winds from									Wind velocity.				Hygrometry 8 A.M.			Rainfall.						Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer uncorrected.	Mean velocity corrected (where possible.)	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Number of rainy days of year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
201	3	6	18	27	2	22	54	28	1·8	1·8	2·2	−18	68	·515	2·8	34	39·18	− 5·18	28·46	32·89	− 4·43	4·33	Meerut†	United Provinces West.	22
61	15	11	32	40	7	12	106	81	3·0	2·6	3·6	−28	57	·483	2·9	31	33·74	− 2·74	21·07	30·03	−8·96	2·52	Delhi	South-East Punjab.	26
194	30	19	17	40	11	7	23	24	2·2		2·5	−12	66	·501	2·3	18	28·26	−10·26	17·96	21·95	− 3·99	5·72	Lahore.	Central Punjab.	28
58	5	46	15	86	12	89	5	49			3·6		58	·465	1·5	19	23·39	− 4·39	5·48	15·55	−10·07	0·65	Sirsa	South Punjab.	27
66	54	18	51	68	19	8	42	39	P	P			69	·533	2·7	38			25·71			4·96	Patiala.		
100	15	32	15	89	8	22	53	31	2·9	2·6	1·5	+73	66	·506	2·5	32	37·00	− 5·00	30·51	30·90	− 0·39	5·40	Ludhiana.	Punjab (Submontane).	29
98	35	36	75	25	2	5	14	25	2·2		1·8	+28	64	·427	1·9	44	38·36	+ 5·64	28·50	33·12	−5·62	3·61	Sialkot.		
245	1	3	13	51	1	1	13	37	1·8*				76	·546	2·4	40			31·80	33·11	− 1·51	3·71	Umballa.		
267	18	22	13	7	3	7	9	19	2·5	2·3	2·0	+15	63	·423	2·0	42	46·81	− 4·81	26·94	35·17	− 8·23	2·75	Rawalpindi	North Punjab.	31
																			6·55	9·66	−3·11		VII.—N.-W. Frontier Province, Indus Valley and North-West Rajputana.		
247	21	5	3	4	27	10	18	30	1·7	1·9	3·4	−44	63	·453	2·2	23	21·56	+ 1·44	14·52	13·54	+ 0·98	3·85	Peshawar	North Punjab.	31
111	25	104	54	13	15	24	13	6	5·6	6·5			54	·442	1·6	21	16·40	+ 4·60	14·36	10·39	+ 3·97	3·36	Khushab	West Punjab.	32
42	38	40	36	63	60	55	13	18	6·7	5·8			47	·396	1·7	9	15·70	− 6·70	4·87	10·88	− 6·01	1·35	Montgomery.		
223	39	61	1	16	3	2	2	10	1·8	1·7	1·8	− 6	68	·543	1·6	14	14·73	− 0·73	11·88	8·42	+ 3·46	4·50	D. I. Khan.‡		
166	12	41	3	44	31	49	3	16	1·5	1·9	2·5	−24	60	·505	1·6	9	11·72	− 2·72	2·54	7·56	− 5·02	0·81	Mooltan.		
188	12	13	50	52	18	6	3	23	2·5	2·6	3·4	−24	56	·511	1·7	6	6·63	− 0·63	2·68	4·08	− 1·40	0·92	Jacobabad	Sind.	47
12	109	7	1	6	33	163	21	13	9·5	9·9	10·1	− 2	54	·496	1·6	6	10·14	− 4·14	1·96	7·06	− 5·10	0·78	Hyderabad.		
35	14	55	38	10	10	66	110	27	8·9	11·2	13·3	−16	70	·654	2·9	3	9·73	− 6·73	1·37	7·92	− 6·55	0·54	Kurrachee.		
16	17	33	40	42	38	36	103	40	8·0		4·8	+67	53	·520	2·2	12			6·67	11·95	− 5·28	2·42	Bikaner	West Rajputana.	51
2	44	46	57	10	79	69	42	16	7·0*	6·5*	5·2*	+33	54	·515	1·2	8			3·12	10·37	− 7·25	0·94	Pachpadra.		
78	13	78	29	5	12	88	53	9	5·3	4·7			45	·427	3·1	11			8·09	14·15	− 6·06	1·90	Jodhpur.		
																			16·13	30·15	−12·58		VIII.—East Rajputana, Central India and Gujarat.		
67	36	70	26	8	4	41	61	52	3·8		5·1	−25	54	·476	3·0	22	39·10	−17·10	15·66	28·87	−13·21	3·35	Jaipur	East Rajputana.	50
105	33	22	8	14	4	52	60	67	4·9	5·8			51	·476	2·5	29			21·90	29·92	− 8·02	2·00	Kotah.		
186	29	18	14	3	3	3	76	33	4·4		6·7	−34	56	·468	2·6	17	32·76	−15·76	12·92	23·07	−10·15	1·95	Sambhar		
135	6	28	1	19	7	54	90	25	5·3		4·3	+23	63	·518	3·0	26	33·14	− 7·14	13·57	22·30	− 8·73	2·05	Ajmer.		
176	20	1	3	2	4	49	64	37	4·0	4·0			57	·488	2·6	30			18·11			2·68	Udaipur.§		
	28	34	56	11	41	86	37	22	10·4		10·3	+ 1	51	·494	2·9	13	23·81	−15·81	7·85	26·73	−18·88	2·20	Deesa.		
10	17	7	8	7	15	81	186	34	13·0		10·2	+27	66	·650	2·1	11			5·33	14·60	−9·27	1·95	Bhuj	Kathiawar and Cutch.	46
7	14	47	19	19	52	136	53	18	11·9	12·7			66	·640	2·3	15			4·01			1·12	Jamnagar		
21	26	31	23	16	9	54	126	54	9·4	9·3	9·2	+ 1	60	·561	3·1	21	34·14	−13·14	13·78	28·67	−14·89	1·62	Rajkot.		
1	84	58	9	9	6	50	93	55	8·9	10·4	7·9	+32	68	·651	3·7	9			2·72	21·02	−18·30	0·30	Veraval.		
	47	32	15	4	13	97	66	52	14·4				76	·761	3·3	8			3·43			0·65	Dwarka.‖		
14	47	9	4	5	9	91	69	117	6·9*	7·0*			53	·526	3·1	21			16·15	22·59	− 6·44	2·56	Bhavnagar Para.		
87	34	10	42	9	10	34	119	20	2·3	2·3	2·5	− 8	66	·544	3·7	45	49·81	− 4·81	37·37	44·43	− 7·06	4·10	Nowgong	Central India	49
91	14	26	15	31	11	25	119	33	4·4		4·2	+ 5	65	·557	4·1	40	47·95	− 7·95	21·94	34·90	−12·96	2·13	Indore.		
13	26	32	59	8	3	63	39	22	9·1	8·2	10·1	−19	58	·497	2·7	28	39·65	−11·65	14·25	32·29	−18·04	3·35	Neemach.		
27	52	33	49	20	51	51	63	19	6·7	7·1	9·0	−21	65	·656	3·1	26	49·28	−23·28	18·45	46·33	−27·88	3·05	Surat	Gujarat.	45
2	36	52	66	9	6	97	8	80	3·3				53	·542	3·1	25			19·13	37·98	−18·85	2·70	Ahmedabad.§		
36		39		71		127	1	91	4·1	4·8	4·2	+14	60	·529	2·2	29	33·91	− 9·91	16·41	29·12	−12·71	2·50	Agra	United Provinces West.	22
92	21	21	19	15	13	24	78	22	4·2		3·4	+24	63	·564	1·9	48	49·51	− 1·51	43·58	39·52	+ 4·06	4·60	Jhansi	United Provinces Central.	21

† Wind observations of 364 days.

‡ Wind observations of 358 days.
§ " " 356 "
‖ " " 326 "

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M., in inches.						Temperature of air,											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea level and corrected for constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	IX.—Deccan.				+·012							90·7	+0·7	68·1	+1·1	79·4	+0·9	22·6			64·8	35·7
38	Bombay Deccan	Belgaum	2,539	27·377	+·010	29·859	27·587	27·103	·484	·156	71·7	84·1	?	65·0	+1·0	74·6	?	19·1	100·3	43·6	56·7	30·1
		Sholapur	1,590	28·312	+·007	29·861	28·561	28·067	·494	·171	76·4	93·2	+0·6	69·4	+1·9	81·4	+1·2	23·8	109·7	49·1	60·6	37·2
		Poona	1,840	28·072	+·008	29·881	28·326	27·812	·541	·161	71·7	90·1	+1·4	64·7	?	77·4	?	25·4	108·1	42·0	66·1	38·7
		Bijapur	1,946	27·970	+·016	29·870	28·200	27·723	·477	·165	74·5	91·6	?	68·4	+0·9	80·0	?	23·2	105·9	49·6	56·3	36·6
40	Khandesh	Malegaon	1,430	28·464	+·011	29·864	28·757	28·150	·607	·192	74·8	93·2	+2·3	66·0	+1·2	79·7	+1·3	27·2	110·8	37·2	73·6	40·4
		Ahmednagar	2,152	27·771	+·014	29·878	28·052	27·508	·524	·179	73·9	89·9	+1·4	64·4	+1·1	77·2	+1·3	25·5	108·0	39·9	68·1	39·8
41	Berar	Akola	930	28·957	+·019	29·852	29·267	28·666	·601	·202	75·2	93·2	+1·1	66·7	+0·4	80·0	+0·7	26·5	116·4	43·0	73·4	40·1
		Amraoti	1,215	28·669	+·022	29·850	28·972	28·382	·590	·196	76·2	92·3	+0·7	69·7	+1·5	81·0	+1·1	22·6	115·5	50·4	65·1	35·1
42	Central Provinces, West.	Khandwa	1,044	28·835	+·015	29·851	29·161	28·526	·635	·203	74·8	93·5	+2·3	67·9	+1·5	80·7	+1·9	25·6	117·2	40·7	76·5	40·2
		Hoshangabad	1,006	28·873	?	29·856	29·215	28·513	·702	·214	73·7	90·7	+0·5	67·6	+0·9	79·2	+0·7	23·1	115·0	44·2	70·8	30·6
		Nagpur	1,025	28·841	+·013	29·835	29·172	28·527	·645	·209	75·0	92·1	+0·4	69·1	+0·7	80·6	+0·6	22·9	115·7	49·2	66·5	36·1
43	Central Provinces, Central.	Chanda	634	29·258	+·007	29·847	29·585	28·963	·622	·202	76·1	92·3	?	69·6	+1·2	80·9	?	22·7	115·7	44·1	71·6	36·6
		Seoni	2,033	27·941	+·019	29·837	28·133	27·529	·604	·200	72·5	87·5	0	64·8	0	76·2	0	22·5	109·9	45·0	64·9	35·4
		Jubbulpore	1,327	28·518	?	29·826	28·868	28·149	·719	·217	71·5	88·4	+0·3	64·7	+0·4	76·6	+0·4	23·7	112·0	39·4	72·6	37·9
		Saugor	1,807	28·062	+·014	29·838	28·409	27·694	·715	·213	74·3	88·2	+0·5	67·6	+2·0	77·9	+1·3	21·6	111·5	43·1	68·4	34·7
49	Central India	Sutna	1,040	28·793	+·002	29·812	29·170	28·379	·791	·233	73·8	88·9	+1·1	67·5	+2·6	78·2	+1·9	21·3	113·6	41·8	71·8	36·4
44	Central Provinces, East.	Raipur	970	28·986	+·012	29·820	29·213	28·537	·676	·217	75·3	89·6	−0·2	60·3	+0·9	79·8	+0·4	20·0	113·0	47·4	65·6	33·5
		Sambalpur	486	29·370	+·001	29·813	29·720	28·975	·745	·237	76·1	90·3	−0·6	70·5	+0·6	80·4	0	19·8	112·1	47·6	63·5	33·6
39	Hyderabad, North.	Indur		28·599			28·244	28·325	·519	·187	76·6	90·2		68·0		79·1		22·2	108·3	44·1	64·7	34·0
		Bidar	2,165?	27·722		29·828	27·970	27·491	·479	·204	75·7	88·9		67·0		78·0		21·9	106·4	39·2	67·2	33·9
43	Hyderabad, South	Gulbarga	1,502	28·401		29·859	28·673	28·136	·537	·178	77·1	93·3		69·9		81·6		23·4	108·4	50·5	57·9	36·0
		Raichur	1,326	28·578	+·009	29·862	28·829	28·302	·527	·173	77·7	92·3	+0·4	72·3	+0·6	82·3	+0·5	20·0	107·6	55·2	52·4	31·7
		Hyderabad (Dn.)	1,690	28·209	+·012	29·858	28·471	27·969	·507	·186	75·2	90·0	?	69·9	+2·0	80·0	?	20·1	106·9	54·3	52·6	31·1
		Secunderabad	1,787	28·110	?	29·857	28·373	27·864	·509	·183	74·3	91·1	+1·0	69·5	+1·5	80·3	+1·3	21·6	109·3	53·7	55·6	34·1
		Hanumkonda	871	29·007		29·850	29·302	28·724	·578	·200	77·5	91·3		72·0		81·6		19·4	109·2	53·7	55·5	31·7
	X.—West Coast.				+·006							86·5	+0·7	75·1	+1·1	80·8	+0·9	11·4			34·0	20·3
37	Konkan	Bombay	37	29·881	+·010	29·858	30·124	29·545	·579	·175	78·3	86·3	+0·8	75·5	+0·8	80·9	+0·8	10·8	98·5	58·5	40·0	20·2
		Ratnagiri	110	29·758	+·010	29·846	30·003	29·431	·572	·164	79·0	87·6	+0·4	74·2	+1·5	80·9	+1·0	13·4	100·8	56·0	44·8	25·0
		Mormugao	60	29·867	+·007	29·262	30·084	29·502	·582	·163	78·9	86·5	+0·3	75·9	+0·8	81·2	+0·6	10·6	95·0	62·3	32·2	19·6
		Goa	199	29·755§	?	29·832§	29·924	29·598	·326	·147	78·6	84·4	?	75·3	+0·8	79·9	?	9·1	92·5?	61·5	31·0?	18·6
		Karwar	44								76·3	86·4	+0·5	73·8	+1·3	80·1	+0·9	12·6	93·8	59·0	34·8	22·3
33	Malabar	Cochin	11	29·936	+·004	29·874	30·099	29·793	·306	·129	79·3	89·2	+2·2	75·7	+1·2	82·5	+1·7	13·5	96·5	67·8	28·7	20·4
		Calicut	27	29·910	?	29·866	30·070	29·718	·352	·138	78·9	87·0	+0·3	74·6	+0·8	80·9	+0·5	12·4	94·4	61·0	33·4	20·1
		Mangalore	65	29·872	0	29·869	30·063	29·589	·474	·146	79·0	86·9	+0·3	75·1	+1·2	81·0	+0·7	11·8	98·8	63·5	35·3	21·0
		Trivandrum	198	29·734	?	29·864	29·877	29·597	·280	·125	78·1	84·4	+0·4	75·5	?	80·0	?	8·9	91·5	65·5	26·0	15·5
	XI.—South India.				+·007							90·8	+0·8	73·0	+1·1	81·9	+0·9	17·9			45·5	27·8
57	Madras, South	Pamban	37	29·893		29·847	30·097	29·719	·378	·131	82·3	89·4		76·8		83·1		12·6	94·8	71·2	23·6	16·5
		Tinnevelly	168	29·760	?	29·858	29·971	29·590	·381	·144	82·4	94·3	0	76·9	+0·3	85·6	+0·3	17·4	104·5	67·9	36·6	25·0
		Madura	447	29·470	+·004	29·855	29·673	29·278	·395	·147	81·1	93·7	?	73·8	+1·2	84·3	?	18·9	102·5	65·1	37·4	27·3
		Periyakulam		28·980			29·184	28·778	·406	·145	77·6	91·5		70·6		80·1		21·0	102·3	58·0	44·3	32·0
34	Madras, South Central	Salem	940	29·002	−·005	29·887	29·224	29·797	·427	·151	78·8	93·7	+1·0	72·2	+2·0	83·0	+1·5	21·5	105·7	55·0	50·7	32·1
		Coimbatore	1,348	28·582	+·007	29·883?	28·776	28·374	·402	·144	76·2	90·1	?	71·1	+1·5	80·6	?	19·0	102·4	57·2	45·2	28·4
35	Coorg	Mercara	3,781	26·245	+·014		26·101	26·019	·382	·130	65·8	76·5	+0·2	62·2	+1·2	69·4	+0·7	14·3	90·0	52·1	37·9	23·0

I—*contd.*

at 218 stations in India, Burma, etc., in the year 1901—contd.

Wind direction. Number of winds from									Wind velocity.		Hygrometry 8 A.M.			Rainfall.						Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer (uncorrected).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Number of rainy days of year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.			
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
																			36·46	41·18	−4·34		IX.—Deccan		
79	19	26	40	20	11	79	79	12	13·2		15·7	−16	73	·566	5·3	95	85·39	+11·70	58·05	48·73	+ 9·32	4·00	Belgaum . .	Bombay, Deccan.	38
8	20	48	34	62	4	61	38	86	10·8	9·8	8·9	+10	57	·527	4·4	38	50·59	−12·59	24·92	33·73	− 8·81	5·23	Sholapur.*		
53	4	9	28	17	6	71	116	61	10·3	12·2	10·0	+22	64	·513	4·1	54	49·04	+ 4·96	28·66	28·67	− 0·01	2·38	Poona .		
137	7	8	16	18	6	55	85	33					67	·582	3·6	33	43·93	−10·93	17·84	16·18	+ 1·66	2·95	Bijapur.		
	19	21	7	3	17	52	177	66	8·0	9·3	7·2	+29	53	·486	3·1	32	40·25	− 8·25	16·98	25·49	− 8·51	2·87	Malegaon. .	Khandesh.	40
44	55	21	9	30	24	31	54	37	7·6	9·2			62	·523	3·9	34			16·93	23·53	− 6·60	1·97	Ahmednagar.		
75	2	23	44	18	6	37	76	94	6·6	7·1	5·5	+29	59	·525	4·0	47	50·33	− 3·33	26·69	37·69	−11·00	3·58	Akola . . .	Berar.	41
	26	76	49	17	16	57	94	30	8·6	7·6	4·7	+62	60	·556	4·1	44	50·50	− 6·50	28·92	37·25	− 8·33	3·20	Amraoti.		
71	1	14	43	20	12	15	96	93	6·9		5·4	+28	57	·502	3·7	39	44·22	− 5·22	17·07	33·16	−16·09	1·90	Khandwa . .	Central Provinces West.	42
4	1	146	1	15		168		26	4·5	4·6	3·0	+53	63	·536	3·3	58	60·13	− 2·13	45·50	56·48	−10·98	4·30	Hoshangabad.		
117	49	35	12	13	20	35	52	32	6·1		6·1	0	64	·562	4·6	63	64·63	−1·63	37·62	50·75	−13·13	3·50	Nagpur.		
117	26	20	22	23	18	38	75	26	2·9		3·7	−22	67	·612	5·1	62			55·08	58·41	− 3·33	6·82	Chanda . .	Central Provinces Central.	43
	68	66	17	17	41	50	55	51	4·6		3·9	+18	64	·516	3·4	79	73·61	+ 5·36	52·54	58·74	− 6·20	2·64	Seoni.		
31	16	26	12	72	67	48	63	30	3·4		3·3	+ 3	70	·551	3·2	61	65·31	− 4·31	57·16	60·32	− 3·16	5·44	Jubbulpore.		
	15	32	53	66	28	30	124	16	6·1	6·9	3·5	+97	59	·518	2·9	56	57·00	− 1·00	49·97	48·87	+ 1·10	4·57	Saugor.†		
36	3	17	37	10	7	42	105	80	4·8	5·2	6·1	−15	62	·516	3·7	55	52·90	+ 2·10	42·74	46·49	− 3·75	2·79	Sutna . . .	Central India.	49
126	21	32	18	9	8	106	28	16	6·5	6·0	5·6	+ 7	67	·588	4·5	75	65·04	+ 9·96	50·68	52·42	− 1·74	3·06	Raipur†. . .	Central Provinces, East.	44
	59	80	38	20	24	67	44	33	4·0	3·9	2·3	+70	73	·676	2·5	71			61·80	67·95	− 3·15	9·49	Sambalpur.		
126	6	26	8	23	1	67	2	103	6·8	6·5			72	·677	3·7	60			46·86	37·33	+ 9·53	3·85	Indur.‡	Hyderabad, North	29
10	41	33	43	26	12	136	36	28	9·2	7·7			69	·611	1·7	52			26·84	41·95	−15·11	2·33	Bidar.		
54	33	43	51	16	25	43	57	43	10·5	10·1			67	·638	3·9	46			20·69	28·79	− 8·10	2·16	Gulbarga . .	Hyderabad, South	53
24	17	11	42	71	15	95	40	50	9·9	9·7			66	·626	3·4	52			35·46	28·13	+ 7·33	4·65	Raichur.		
167	4	5	24	22	4	2	122	9	5·6	5·4			70	·617	4·1	57			30·99	33·02	− 2·03	1·66	Hyderabad (Dn.)		
32	28	55	61	39		24	73	53	7·3		6·5	+12	71	·610	3·7	54			31·22	33·62	− 2·40	1·92	Secunderabad.		
81	23	1	3	75	42	18	80	42	9·0	7·6			70	·664	5·0	52			27·22			2·22	Hanumkonda.		
																			98·93	103·03	−4·10		X.—West Coast.		
4	39	86	64	24	17	32	74	25	10·4		12·2	−15	78	·772	4·6	68	76·57	− 8·57	75·32	94·09	+ 1·23	5·68	Bombay . .	Konkan.	37
92	28	26	63	37	5	17	59	42	5·4	5·4	10·2	−47	74	·733	4·7	96	97·63	− 1·63	79·31	111·62	−32·31	3·05	Ratnagiri.		
45	32	33	72	35	19	16	75	38	9·4				82	·820	4·7	95			98·40	91·80	+ 6·60	11·66	Mormugao.		
8	35	89	102	3	15	28	55	26					80	·789	5·5	92			108·12	103·29	+ 4·83	10·10	Goa.		
26	66	50	68	7	5	23	56	13	4·7				81	·746	4·3	93	108·39	−15·99	134·49	129·17	+ 5·32	13·76	Karwar.†		
49	106	95	11	2	2	14	39	47	5·5				82	·834	5·6	135	131·30	+ 3·70	102·97	116·37	−13·40	4·76	Cochin . . .	Malabar.	33
63	94	92	56	33	6	9	13	49	7·8	9·9			84	·817	5·4	124	113·39	+10·61	119·79	112·79	+ 7·00	4·35	Calicut.		
113	19	19	80	69	7	5	23	30	2·3		3·4	−18	81	·812	5·7	114	118·30	− 4·30	113·94	122·71	− 8·77	5·40	Mangalore.		
89	95	41	33	10		3	16	78	5·5				82	·795	5·8	93			57·93	65·41	− 7·43	5·41	Trivandrum.		
																			36·94	36·64	−0·17		XI.—South India.		
3	15	87	37	43	20	103	21	20	10·2	10·8			81	·894	2·9	46	35·30	+10·70	43·68	38·20	+ 5·48	4·27	Pamban . .	Madras, South.	57
	89	36	5	7	7	24	81	116	5·7	5·2			72	·800	4·4	52	42·20	+ 9·80	25·00	29·09	− 4·09	1·56	Tinnevelly.		
70	91	50	17	19	7	18	2	85	2·6	2·6	4·2	−38	73	·777	4·8	60	43·15	+16·85	38·24	32·75	+ 5·49	3·52	Madura.		
217	42	12	15	19	14	9	19	18	2·5	2·8¶			73	·690	4·7	66			37·80			3·30	Periyakulam .		
120	4	41	53	2	18	78	45	4	4·6	4·1	4·4	− 7	75	·748	4·9	61	65·42	− 4·42	40·47	41·31	− 0·84	4·07	Salem . . .	Madras, South, Central.	34
1		46	120	2	14	78	103	1	4·7‖	4·2‖	4·8	−13	83	·758	5·8	49	44·15	+ 4·85	25·34	21·16	+ 4·18	2·18	Coimbatore.		
108	14	53	65		1	4	84	36	5·5	5·1	5·8	−12	89	·575	7·7	131	136·70	− 5·70	118·66	129·18	−10·52	3·96	Mercara . .	Coorg.	35

* Wind observation of 361 days. † Wind observation of 364 days. ‡ Wind observation of 362 days. § Mean of 9 months. ‖ Mean of 11 months. ¶ Mean of 10 months.

Table

Abstract of observations taken at 8 A. M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and to constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
36	Mysore	Chitaldroog	2,405	27·526	+·001	29·858	27·726	27·276	·450	·147	74·3	87·4	+1·0	60·5	+1·3	78·0	+1·2	19·9	102·7	54·9	47·8	23·2
		Bangalore	3,021	26·949	+·001	29·880	27·142	26·744	·398	·136	70·6	81·9	+1·1	65·0	+1·2	75·0	+1·1	19·9	97·8	51·9	45·9	29·2
		Hassan	3,091	26·888		29·889	27·058	26·657	·441	·141	72·2	82·8		62·5		73·2		19·3	97·9	47·0	50·9	29·7
		Mysore	2,518	27·444	+·008	29·891	27·635	27·229	·406	·142	73·0	87·0	+0·7	66·7	+0·8	76·8	+0·8	20·3	100·1	51·9	48·2	29·2
56	Madras, East Coast, South.	Negapatam	31	29·880	−·003	29·840	30·087	29·683	·404	·152	82·4	90·9	+1·5	76·8	+1·1	83·9	+1·3	14·2	104·1	68·5	35·6	23·7
		Cuddalore	12	29·902	?	29·944	30·137	29·687	·450	·169	80·8	91·0	+0·6	75·6	+1·2	83·3	+0·9	15·4	106·2	61·7	44·5	25·4
		Trichinopoly	255	29·671	+·002	29·860	29·881	29·472	·409	·159	80·5	95·0	+1·0	75·3	+1·5	85·1	+1·2	19·7	107·7	61·4	46·3	30·5
		Madras	22	29·937	−·002	29·940	30·143	29·640	·503	·175	81·9	91·6	+0·3	75·6	+0·9	83·6	+0·9	16·0	108·5	59·5	49·0	26·1
		Vellore	707	29·204		29·860	29·452	28·965	·487	·160	79·1	93·4		73·6		83·5		19·8	105·8	59·9	45·9	30·7
55	Madras, East-Coast, Central.	Nellore	71	29·836	+·015	29·840	30·115	29·562	·553	·188	81·8	94·1	0	76·2	+1·1	85·2	+0·6	17·9	110·3	64·1	46·2	28·4
		Masulipatam	15	29·888	+·018	29·838	30·189	29·603	·586	·202	81·0	90·6	+0·2	75·2	+1·0	82·9	+0·6	15·4	110·7	60·2	50·5	26·6
54	Madras, Central	Cuddapah	433	29·474	+·006	29·847	29·737	29·213	·524	·173	82·2	96·4	+2·0	75·6	+1·4	86·0	+1·7	20·8	109·8	56·8	53·0	33·3
		Kurnool	924	28·974	0	29·849	29·242	28·708	·534	·179	77·1	94·3	+1·1	71·8	+1·7*	83·1	+1·5*	22·5	109·3	49·7	59·6	34·6
		Bellary	1,475	28·437	+·011	29·864	28·683	28·186	·497	·163	78·0	94·0	+1·0	72·1	+1·7	83·1	+1·4	21·9	109·0	55·1	53·9	32·6
52	Madras, East-Coast, North.	Cocanada	26	29·862	+·018	29·823	30·166	29·558	·608	·212	80·2	89·3	+0·2	75·5	+0·7	82·4	+0·4	13·8	111·0	60·5	50·5	25·1
		Waltair (Vizag.)	226	29·659	+·012	29·618	29·962	29·309	·673	·225	80·5	87·3	0	75·8	+0·3	81·6	+0·2	11·5	99·9	63·4	36·5	21·5
		Gopalpur	21	29·840	+·011	29·801	30·171	29·442	·729	·242	78·7	85·7	+0·9	73·3	+0·2	80·1	+0·6	13·4	101·8	56·1	45·2	22·3
	XII.—Hill Stations.		...	...	...	....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
48	Baluchistan	Pishin										75·6		?		?		?	101·4	?	?	?
		Quetta	5,502	24·641	+·025		24·865	24·273	·592	·259	56·0	74·5	+1·2	42·7	−1·8	58·6	−0·3	31·8	100·1	17·3	82·8	50·9
		Kalat									56·0	73·8		35·6		54·7		38·3	100·3	0·4	99·9	60·7
		Chaman	4,311	25·681*	+·022*		25·952	25·270	·682	·270	64·0	79·1	0	52·5	−0·6	66·3	−0·3	25·6	107·2	23·1	84·1	47·3
30	Punjab and North-West Frontier Province.	Leh	11,503	19·728	+·029		19·996	19·302	·694	·331	36·3	53·1	−2·8	28·1	−1·8	41·5	−2·8	25·0	83·2	−8·5	91·7	42·5
		Srinagar	5,204	24·898	+·014		25·169	24·522	·647	·324	49·2	66·9	+1·0	44·1	+0·3	55·6	+0·7	22·8	94·9	19·1	75·8	39·4
		Skardu		22·895			23·245	22·490	·755	·366	45·1	62·0		39·4		50·7		22·6	99·6	−7·9	107·5	42·3
		Dras		20·818			21·085	20·404	·681	·359	32·2	51·8		19·8		35·8		32·0	89·5	−33·9	123·4	55·7
		Gilgit		25·155			25·555	24·611	·944	·436	58·7	72·8		52·3		62·6		20·5	108·8	24·5	84·3	41·8
		Chitral		24·550			24·850	24·300	·550	·251	54·0	76·1		49·4		62·8		26·7	108·2	26·0	82·2	44·2
		Killa Drosh									55·7	76·5		51·1		63·8		25·4	104·2	23·8	80·4	43·3
		Para Chinar	6,000								58·3	70·2		46·2*		57·1*		22·3*	97·1	12·7	84·4	39·8
		Cherat		25·694	+·027		25·960	25·333	·627	·302	61·3	74·1	−0·3	57·8	+0·4	66·3	+0·1	16·3	100·4	28·9	72·4	36·2
		Murree	6,333	23·837	+·019		24·051	23·442	·609	·295	56·2	64·0	−1·8	50·9	+0·2	57·5	−0·8	13·1	82·9	27·0	55·9	32·4
		Poo										62·0		40·8		51·5		21·2	88·5	10·5	78·0	37·0
		Simla	7,224	23·108	+·016		23·281	22·852	·429	·240	53·3	60·6	−0·9	49·6	−0·4	55·1	−0·7	11·0	84·4	24·2	60·2	26·4
25	United Provinces	Chakrata	7,022	23·266	+·012		23·448	22·974	·474	·231	53·7	63·4	−0·9	49·3	−0·1	56·4	−0·5	14·1	85·3	25·8	59·5	29·5
		Mussooree	6,705	23·546	+·013		23·735	23·280	·455	·240	55·4	63·1		51·3		57·2		11·8	88·8	26·5	62·3	28·1
		Ranikhet	6,069	24·092	+·019		24·307	23·801	·506	·231	58·0	67·8	+0·1	53·6	+0·5	60·7	+0·3	14·2	90·1	29·5	60·6	29·0
		Muktesar		22·843			23·013	22·585	·428	·228	54·4	64·6		48·2		56·4		16·3	87·4	25·9	61·5	31·6
13	Bengal	Yatung	10,480?									54·0		33·8*		43·3*		13·8	70·1	9·9	60·2	33·2*
		Darjeeling	7,376	23·004	+·007		23·182	22·780	·402	·220	53·3	60·0	+0·9	48·6	+0·9	54·3	+0·9	11·4	72·2	28·4	43·8	21·4
		Gangtok	5,660	24·436			24·584	24·205	·379	·111	56·8	68·3		36·0*		52·3*		32·5*	80·2	17·0	63·2	42·6

* Mean of 11 months.

I—*contd.*

at 218 stations in India, Burma, etc., in the year 1901—contd.

Wind direction. Number of winds from									Wind velocity.				Hygrometer 8 A.M.			Rainfall.						Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer (uncorrected).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Number of rainy days of year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
9	9	20	58	39	10	78	100	42	8·6	7·4			74	·829	5·6	48			21·15	25·12	− 3·97	1·91	Chitaldroog.	Mysore.	36
7	3	30	75	31	17	84	97	18	9·1	7·9	5·2	+52	78	·591	5·5	68	61·22	+ 6·68	37·00	35·79	+ 1·21	3·89	Bangalore.		
6	7	45	66	52	13	42	84	50	3·6	3·2			72	·583	6·2	65			33·46	30·00	+ 3·46	3·46	Hassan.		
4	15	45	43	25	17	114	79	23	8·1	9·0			78	·617	6·0	52			32·43	28·75	+ 3·68	1·89	Mysore.		
48	13	66	12	15	17	93	58	43	9·5	8·4	5·6	+ 50	76	·848	4·8	57	59·14	− 2·14	42·00	55·04	−13·04	3·37	Negapatam	Madras, East-Coast, South.	56
319	12	1	4		5	8	9	7	0·5	1·0			78	·824	5·8	64	56·70	+7·30	50·20	49·05	+ 1·15	3·34	Cuddalore.		
162	15	38	2	2	4	35	86	21	4·6		5·8	− 21	74	·769	4·2	46	44·41	+ 1·59	32·29	32·90	− 0·61	2·99	Trichinopoly.		
2	65	24	25	11	68	66	86	18	6·6		7·1	− 7	75	·813	5·0	65	62·00	+ 3·00	59·84	49·76	+10·08	10·30	Madras.		
185	4	12	6	11	27	80	16	22					78	·770	4·0	52			45·86			5·62	Vellore,†		
30	26	6	7	24	75	7	62	128	6·2				74	·796	5·5	46	43·80	+ 2·20	34·54	33·91	+ 0·63	2·95	Nellore	Madras, East Coast, Central.	55
42	67	34	8	33	34	17	55	75	7·8		7·0	+ 11	81	·862	5·4	55	54·39	+ 0·61	37·74	43·26	− 5·52	4·40	Masulipatam.		
	4	65	31	74	3	31	84	73					65	·716	4·3	51	45·80	+ 5·20	26·98	34·13	− 7·15	2·03	Cuddapah	Madras, Central.	54
197	24	1	13	7	7	10	59	47					67	·627	4·6	48	48·23	− 0·23	27·71	29·98	− 2·27	3·20	Kurnool.		
81	4	7	22	43	18	14	96	80	7·2	7·7	6·5	+ 18	56	·526	6·3	44	34·85	+ 9·15	21·06	19·70	+ 1·36	2·22	Bellary.		
57	39	60	5	8	7	98	48	43	8·4	7·0			78	·809	5·4	65	54·80	+10·20	45·68	44·58	+ 1·10	4·49	Cocanada	Madras, East Coast, North.	52
26	39	55	12	8	4	41	102	18	11·1				71	·746	5·6	53			47·22	45·78	+ 1·51	3·99	Waltair (Vizag.).		
15	90	11	5	4	41	102	7	90	12·3	12·6	9·6	+ 31	80	·792	2·2	50	60·97	−10·97	43·93	49·25	− 5·32	6·55	Gopalpur.		
...	...	...	...	...	...	...	...	...	...			...	...	...	...	...	...	...	...	...	...	...	XII.—Hill Stations.		
																14			4·40	10·44	− 6·04	0·65	Pishin.	Baluchistan.	48
342		1	1	2	7	2	5	5	1·4	1·5	4·1	− 63	59	·280	1·5	14	25·54	−11·54	5·00	10·97	− 5·97	0·79	Quetta.		
17	44		56		232		9		4·8**	24·7**						17			7·19	9·10	− 1·91	0·90	Kalat.‡		
18	12	6	79	98	39	81	16	16	5·6	5·9			51	·322	1·2	13			3·95	7·03	− 3·08	0·60	Chaman.		
1	8	114	97	13	53	49	24	6	2·7				48	·123	4·2	11			3·11	3·10	+ 0·01	0·33	Leh	Punjab and North-West Provinces.	20
121	14	8	16	70	73	12	20	31	3·3	3·5			68	·357	4·5	58			24·39	35·24	−10·85	1·50	Srinagar		
219	20	27	16		8	37	30	8	4·7	5·6			71	·223	4·6	16			5·01	13·32	− 8·31	0·94	Skardu.		
216	1		2	3	2	21	18	2	3·2	3·3			73	·154	4·2	61			21·94	24·25	− 2·31	1·78	Dras.		
324	2	1	1	2		18	18		2·1	2·0			47	·233	4·7	16			4·79	4·19	+ 0·69	0·62	Gilgit.†		
87	82	9	19	14	20	3	122	7					64	·287		25			13·32			1·07	Chitral.§		
198	15	14	38	22	24	21	23	12					60	·286	2·3	37			17·70			2·00	Killa Drosh.		
6	132	46	29	16	9	13	39	72	3·2*				53	·266	3·3*	57			26·55			2·35	Para Chinar.‖		
2	105	61	1	34	21	30	8	103	9·8	9·1			48	·274	2·2	40			35·09	26·16	+ 8·93	7·70	Cherat.		
251	15	7	5	47	21	1	1	7	3·7	4·6	6·8	− 32	58	·276	2·1	60	67·56	− 7·56	53·96	56·29	− 2·33	4·08	Murree		
274	5	10	12	13	2	13	18	12							3·4	28			11·33	18·56	− 7·23	1·37	Poo.†		
96	90	35	15	34	38	2	2	45	4·4		2·2	+100	56	·244	3·7	77	84·52	− 7·52	72·19	64·19	+ 8·00	8·94	Simla.		
69	157	20	6	47	53	5	2	6	9·3		5·1	+ 84	62	·275	3·4	86			74·96	67·76	+ 7·20	5·53	Chakrata.	United Provinces.	25
61	63	17	27	85	20	5	22	65					62	·294	3·3	94	79·73	+14·27	105·95	97·95	+ 8·00	6·33	Mussooree.		
162	10	32	29	27	1	38	35	31	2·0	3·3	2·1	+ 57	66	·335	3·5	81	77·29	+ 3·71	51·36	54·44	− 3·08	3·30	Ranikhet.		
13	7	17	24	113	23	20	16	132	6·5	6·0			61	·275	3·3	84			56·86			4·56	Muktesar.		
																127			49·04			1·66	Yatung	Bengal.	13
117	9	43	51	49	9	33	35	17	4·3	4·0	3·4	+ 18	86	·368	5·9	105	125·46	−20·46	103·54	121·70	−18·16	4·96	Darjeeling.§		
148	9	55	16	23	14	49	1	17	?	?			82	·401	5·4	162			131·44	143·89	−12·45	3·26	Gangtok¶		

** Mean of 10 months.
† Wind observations of 364 days,
‡ ,, ,, ,, 358 ,,
§ Wind observations of 363 days,
‖ ,, ,, ,, 362 ,,
¶ ,, ,, ,, 332 ,,

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of air.										
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and to constant gravity (45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Central India.	Mount Abu	3,945	26·021	−·009		26·272	25·676	·596	·224	68·2	76·8	+0·6	63·0	+1·2	69·9	+0·9	13·8	93·2	36·0	62·2	27·9
		Pachmarhi	3,528	26·436	+·011		26·683	26·123	·554	·187	69·6	79·9	+0·9	61·3	+0·3	70·6	+0·6	18·7	102·7	37 8	64·9	32·4
	South India	Wellington	6,200	24·269	+·001		24·385	24·082	·313	·122	62·2	71·7	+1·0	53·9	+0·1	62·8	+0·6	17·8	80·7	36·7	44·0	29·3
		Kodai Kanal	7,688	22·838			22·937	22·690	·247	·113	57·1	64·1		51·2		56·4		12·8	73·6	39·1	34·5	21·5
	XIII.—Extra India.																					
	Ceylon	Trincomalee	12	29·914	+·019	29·852	30·088	29·743	·345	·141	81·0	89·1	?	76·9	+0·9	83·0	?	12·2	97·5	67·5	30·0	18·8
		Colombo	40	29·907	−·001	29·873	30·028	29·784	·244	·125	80·3	88·5	+1·7	75·6	+0·2	82·0	+1·0	12·9	94·0	69·0	25·0	19·5
	Persia	Meshed	3,104								56·5			46·8							9·0	
		Teheran		25·988			26·325	25·440	·885	·369	60·4	74·2		49·4		61·8		24·9	107·6	13·0	94·6	48·9
		Ispahan		24·332			24·600	24·000	·600	·331	58·7	77·5		46·9		62·2		30·6	104·5	13·7	90·8	49·1
		Bushire	14	29·875	+·017	29·848	30·367	29·360	1·007	·261	75·6	83·3	+0·8	70·2	+1·9	76·8	+1·4	13·1	107·5	41·3	66·2	28·8
		Jask		29·873	+·010		30·330	29·345	·985	·275	79·4	87·2	+0·7	74·0	+0·6	80·6	+0·7	13·2	104·3	47·3	57·0	25·9
		Muscat	20	29·861		29·829	30·257	29·369	·888	·248	80·6	83·2		78·3		80·8		4·9	106·6	62·5	44·1	17·0
	Arabia	Baghdad	220	29·788	−·013	29·988	30·406	29·278	1·128	·386	69·4	90·2	+4·5	62·0	+3·1	76·2	+3·8	28·3	119·4	30·9	88·5	47·8
		Bussrah		29·920			30·491	29·413	1·068	·337		86·7		67·6		77·1		19·1	113·2	34·5	78·7	36·9
		Aden	94	29·836	+·005	29·861	30·106	29·534	·572	·165	81·2	87·7	−1·1	78·1	+0·8	82·9	−0·2	9·6	98·3	66·9	31·4	18·8
		Perim	201	29·710		29·844	30·014	29·361	·653	·171	83·2	89·9		79·7		84·3		10·3	105·0	69·4	35·6	18·1
	Afghanistan	Kabul									49·3	72·1		40·7		56·4		31·5	105·1	2·4	102·7	51·3
	Central Asia	Kashgar	4,255	25·637*			26·230	25·271	·959	·363	48·0	65·5		41·5		53·5		24·0	103·8	4·7	99·1	46·5
	Arabian Sea Islands.	Amini Devi†	13	29·928		29·869	30·077	29·649	·428	·154	83·7	87·6		77·2		82·4		10·4	96·0	67·4	28·6	18·2
	Africa	Zanzibar	73	30·003	+·010	30·003	30·178	29·835	·343	·131	78·2	83 2		76·0		79·6		7·1	91·0	69·6	21·4	13·0
		Do. Dunga		29·932			30·129	29·761	·368	·150	76·0	86·3		68·1		77·3		18·2	97·1	58·9	38·2	26·4

* Mean of 11 months.

† Wind observations of 36½ days.

Note.—When a query is inserted against any reading or in the variation returns of any

I—*concld.*

at 218 stations in India, Burma, etc., in the year 1901—concld.

Wind direction. Number of winds from									Wind velocity.			Hygrometry 8 A.M.		Mean cloud amount of year.	Rainfall.						Heaviest rainfall during year.	Station.	Meteorological Provinces or District.	Number of district.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer (no correction).	Mean velocity corrected (where possible).	Normal.	Percentag evariation.	Mean humidity of year.	Mean vapour tension of year.		Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
50	34	58	4	13	14	131	34	27	8·8	9·1	7·0	+30	52	·357	3·3	39	53·51	−14·51	19·27	66·98	−47·71	1·97	Mount Abu	Central India.	
157	19	8	16	21	13	21	43	67	6·8	7·0	5·2	+35	62	·444	4·1	75	80·46	−5·46	85·21	78·18	+ 7·03	5·03	Pachmarhi.		
227	18	34	11	12	5	45	3	10	2·8		3·3	−15	72	·411	5·2	104	87·15	+16·85	62·12	52·73	+ 9·39	3·90	Wellington	South India.	
10	33	68	47	41	10	5	28	123	13·0				71	·334	4·5	119			66·29			3·74	Kodai Kanal.		
																							XIII.—Extra India.		
88	1	36				231		9	7·6				85	·900	2·9	73			57·33	76·01	−18·68	2·45	Trincomalee	Ceylon.	
7	34	38	63	35	28	105	47	7	7·9		7·6	+4	86	·891	4·6	118			74·37	90·13	−15·26	3·68	Colombo.†		
													65	·336	2·3	18			7·41	8·44	−1·03	1·04	Meshed	Persia	
16	55	122	27	13	17	48	4	19	1·5	1·9			46	·254	1·8	17			5·06	9·81	−4·75	0·63	Teheran.‡		
									1·8	2·3			53	·274	1·6	14			3·92	4·78	−0·86	0·61	Ispahan.		
46	43	83	40	44	9	9	3	33	7·3	8·7	8·45	+7	67	·627	1·7	8			4·07	12·30	−8·23	1·40	Bushire.		
62	43	25	134	22	2	4	6	59	11·5	13·3			77	·816	1·4	1			0·60	4·75	−4·15	0·60	Jask.‖		
47	3	13	9	136	1	45	28	81	4·3	4·5			69	·740	1·6	7			2·10	5·96	−3·86	0·90	Muscat¶		
139	34	16	3	6	14	6	11	74	2·6	3·5			53	·379	1·3	5			1·47	10·31	−8·86	0·35	Baghdad**	Arabia.	
																9			5·64			1·05	Bussrah.		
76		156	55	37	5	32	1	3	11·4	11·0	11·5	−4	71	·772	4·2	7			2·19	3·67	−1·48	1·00	Aden.		
5	3	35	119	109	7	29	33	21	18·7	17·0			79	·905	2·7	13			3·47	1·69	+1·78	0·90	Perim.††		
	67	25	12	38	34	37	31	71					57	·209	1·1*	19			8·10	11·30	−3·20	2·10	Kabul	Afghanistan.	
202	26	3	14	9	22	6	13	6	4·6	4·1					3·4	8			4·50	4·21	+0·29	1·30	Kashgar ‡‡	Central Asia.	
5	92	34	9	9	3	31	63	33					75	·365	5·1	77			38·94			4·80	Amini Devi	Arabian Sea Island.	
8	35	52	17	36	126	32	5	4	7·2	6·8			85	·824	6·5	102			73·77	52·37	+20·90	4·47	Zanzibar	Africa	
65	26	49	14	31	72	73	9	17	6·0	5·9			91	·820	5·6	125			37·75			6·35	Do. Dunga §§		

station, the data for that station are not utilized in calculating the provincial variations.

‡ Wind observations of 321 days
§ Mean of 9 months.
‖ Wind observations of 357 days.
¶ Do. 363 „

** Wind observations of 353 days.
†† Do. 361 „
‡‡ Do. 301 „
§§ Do. 336 „

TABLE II.—Abstract of Observations taken at 10 A.M. and 4 P.M., at 65 Stations in India, Burma, etc., in the year 1901.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

Meteorological Province.	Station.	Elevation of bar-cistern above sea level in feet.	Pressure.						Temperature of Air.								
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean daily pressure.	Variation from normal.	Mean reduced to S. L. and for gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean to hours.	Mean 16 hours.	Mean daily.	Variation from normal.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Burma Coast and Bay Islands.	Port Blair	61	29·870	29·773	·097	29·818	+·010	29·810	87·8	78·0	9·8	97·0	70·9	26 1	84·6	85·3	81·9	+1·1
	Rangoon	41	·862*	·731*	·121	·805*	—·806*	·783*	89·3	73·7	15·6	104·0	57·8	46·2	82·5	85·1	79·6	+0·8
	Diamond Island	41	·878	·778	·100	·825	—·010	·801	85·2	77·4	7·8	91·6	68·2	23·4	82·9	82·9	80·2	+1·3
	Cocos Island	111	·845	·756	·089	·798	?	·841	86·5	77·6	8·9	96·8	71·9	24·9	83·6	83·1	80·3	+1·4
	Akyab	20	·884	·776	·108	·830	—·006	·793	86·9	71·4	15·4	98·3	49·4	48·9	80·9	82·9	78·2	—0·2
Bengal and Orissa	Chittagong	87	·802	·696	·106	·748	—·009	·784	86·3	69·5	16·8	99·7	48·7	51·0	81·3	83·0	77·2	+0·8
	Calcutta (Alipore)	21	·849	·737	·112	·793	+·006	·757	87·8	70·9	16·9	103·4	50·1	53·3	81·9	85·3	78·8	+0·9
	Saugor Island	25	·845	·738	·107	·789	+·007	·758	86·1	73·7	12·4	99·4	50·0	49·4	81·5	83·5	78·8	+0·4
	False Point	21	·853	·750	·103	·802	—·002	·764	85·9	72·3	13·6	101·5	52·0	49·5	83·0	83·1	77·9	+0·2
Gangetic Plain and Chota Nagpur.	Hazaribagh	2,007	27·851	27·750	·101	27·800	+·005	·746	84·7	66·5	18·2	107·9	44·7	63·2	78·3	81·6	74·6	+0·7
	Darbhanga	166	29·696	29·572	·124	29·633	0	·753	86·6	68·7	17·9	103·3	45·8	57·5	80·2	85·1	76·9	+0·3
	Allahabad	309	·536	·416	·120	·472	—·007	·733	90·9	67·4	23·5	118·3	42·1	76·2	83·2	89·3	78·4	+0·5
Upper Sub-Himalayas.	Dehra Dun	2,233	27·625	27·540	·085	27·573	+·002	·769	81·3	60·3	21·0	107·8	38·5	69·3	73·1	77·3	69·6	—1·0
	Roorkee	887	28·952	28·851	·101	28·894	+·009	·750	86·5	61·7	24·8	114·7	37·1	77·6	77·3	84·2	73·2	—0·8
	Meerut	738	29·093	·992	·101	29·035	—·001	·740	88·5	63·8	24·7	114·3	41·4	73·4	78·3	85·5	75·2	+0·2
	Lahore	702	·130	29·043	·087	·079	+·005	·750	89·8	63·3	26·5	118·3	37·0	81·3	79·7	87·9	75·6	+1·9
	Ludhiana	812	·027	28·935	·092	28·974	+·012	·757	87·3	64·7	22·6	116·8	39·1	77·7	78·1	85·4	75·1	+1·1
Indus Valley and N.-W. Rajputana.	Peshawar	1,110	28·753	·655	·098	·697	+·004	·791	85·7	59·2	26·5	117·0	33·1	83 9	77·0	82·9	71·3	+0·4
	Jacobabad	186	29·649	29·531	·118	29·583	0	·725	97·6	65·1	32·5	126·0	34·1	91·9	85·3	95·0	80·2	+1·2
	Kurrachee	30	·864	·769	·095	·814	+·010	·795	89·4	70 8	18·6	116·3	42·2	74·1	83·2	84·7	78·6	+1·3
Eastern Rajputana, Central India and Gujarat.	Jaipur	1,431	28·445	28·342	·103	28·388	+·011	·767	91·9	66·8	25·1	116·2	40·3	75·9	83·3	89·3	78·2	+2·0
	Udaipur	1,925	27·965	27·862	·103	27·914		·776	88·7	64 9	23·8	110·6	38·3	71·7	81·3	86·3	76·2	
	Deesa	466	29·416	29·296	·120	29·351	+·003	·766	95·8	68·3	29·0	116·9	38·0	78·9	86·1	93·9	81·9	+2·1
	Jamnagar	61	·841	·734	·107	·787		·794	91·1	68·6	22·5	108·6	43·4	65 2	84·0	88·2	79·1	
Deccan	Belgaum	2,539	27·384	27·281	·103	27·331	+·004	·771	84·1	64·9	19·2	100·1	43·4	56·7	77·7	80·4	73·2	+0·5
	Sholapur	1,580	28·314	28·178	·136	28·248	0	·761	93·3	69·4	23·9	109·5	49·2	60·3	83·7	90·3	80·2	+1·0
	Poona	1,840	·073	27·963	·110	·021	+·008	·783	90·0	61·7	25·3	108·1	42·1	66·0	81·4	86·9	76·5	+0·6
	Akola	930	·966	28·831	·135	·895	+·015	·770	93·2	66·6	26·6	116·3	42·5	73·8	83·9	91·5	79·6	+0·4
	Buldana	2,132	27·773	27·658	·115	27·712	+·009	·762	87·7	67·5	20·2	110·3	48·2	62·1	80·1	85·5	77·2	+0·1
	Khandwa	1,044	28·342	28·710	·132	28·773	+·008	·763	93·5	67·9	25·6	117·2	40·6	76·6	83·3	91·7	80·1	+1·9
	Nagpur	1,025	·853	·725	·128	·786	+·019	·758	92·1	69·2	22·9	115·6	49·4	66·2	82·4	89·1	80·0	+0·4
	Nagpur (Sanitary Commr.'s Office.)	1,013	·872	·742	·130	·804		·766	92·7	69·1	23·6	116·4	47·5	68·9	83·6	90·1	80·3	
	Hyderabad (Deccan)	1,690	·215	·039	·122	·153	+·009	·768	90·1	69·9	20·2	107·0	54·3	52·7	82·4	87·7	79·4	+0·8
West Coast	Bombay	37	29·889	29·787	·102	29·834	+·012	·811	86·3	75·4	10·9	98·4	58·4	40·0	81·1	83·0	80·0	+0·5
	Karwar	44							86·5	73·7	12·8	94·0	58·9	35·1	81·9	84·6	79·5	+0·8
South India	Periyakulam	945	28·980	28·852	·128	28·925			91·5	70·6	20·9	102·3	58·0	44·3	83·7	87·1	79·8	
	Salem	940	29·003	·862	·141	·941	—·009	29·807	93·7	72·3	21·4	105·5	55·2	50·3	84·4	89·3	81·2	+1·5
	Chittaldroog	2,405	27·530	27·414	·116	27·474	+·001	·776	87·4	68·5	18·9	103·0	54·9	48·1	79·6	84·7	77·3	+1·4
	Bangalore	3,021	26·955	26·842	·113	26·904	0	·791	85·0	65·0	20·0	98·0	52·1	45·9	76·8	82·0	74·3	+1·3
	Hassan	3,091	·891	·793	·101	·849	+·003	·802	82·3	63·5	19·4	97·3	47·0	50·3	77·1	79·5	72·4	+1·0
	Mysore	2,518	27·446	27·327	·119	27·387	+·002	·798	87·0	66·7	20·3	99·7	52·0	47·7	78·3	83·6	76·0	+1·0

*Mean of 10 months.

II.

at 65 Stations in India, Burma, etc., in the year 1901.

Temperature, Wet-bulb.				Vapour Tension.					Humidity.					Cloud.				Rainfall.		Station.	Meteorological Province.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Total rainfall for the year.	Heaviest rainfall during the year.		
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
75·3	79·3	79·2	77·9	·847	·937	·921	·902	+·019	88	79	76	81	0	5·7	6·3	6·0	+0·5	132·77	5·39	Port Blair.	Burma Coast and Bay Islands.
71·7	75·9	76·1	74·5	·761	·813	·771	·782	+·003	90	74	64	76	−1	5·8	6·5	6·2	+0·8	98·49	6·24	Rangoon.	
73·3	77·2	76·8	75·8	·764	·884	·843	·824	+·016	81	76	75	77	−2	4·8	5·1	5·0	−0·2	118·12	5·56	Diamond Island.	
73·6	77·4	76·9	76·0	·778	·862	·849	·830	+0·12	82	75	75	77	−2	5·0	5·2	5·1	+0·1	94·88	5·77	Cocos Island.	
?	75·2	76·3	?	?	·820	·828	?	?	?	76	73	?	?	4·6	4·7	4·7	+0·1	204·44	8·81	Akyab.	
68·2	74·2	74·6	72·3	·699	·766	·759	·741	−·009	94	70	67	77	−3	5·0	4·8	4·9	+0·3	85·05	6·70	Chittagong	Bengal and Orissa.
68·8	74·0	73·9	72·2	·707	·759	·709	·725	−·011	90	68	56	72	−4	4·5	4·7	4·6	+0·3	70·11	5·54	Calcutta (Alipore).	
71·1	75·9	76·1	74·4	·760	·842	·828	·810	−·010	88	76	70	78	−2	5·2	5·0	5·1	+0·2	72·65	4·04	Saugor Island.	
71·0	76·2	76·2	74·5	·770	·831	·828	·810	+·014	94	72	72	79	−1	5·0	5·3	5·2	+0·4	57·55	8·86	False Point.	
61·0	65·4	66·0	64·1	·496	·488	·464	·493	−·001	73	51	45	56	−1	4·8	6·2	5·5	+0·8	43·15	3·17	Hazaribagh	Gangetic Plain and Chota Nagpur.
66·0	71·7	72·4	70·0	·643	·692	·653	·663	−·008	87	66	54	69	−2	3·0	2·3	2·7	−0·2	39·75	4·01	Darbhanga.	
62·7	70·4	71·7	68·2	·550	·604	·568	·574	+·002	79	54	43	59	−2	3·2	3·8	3·5	+0·2	33·63	3·75	Allahabad.	
55·7	62·6	63·8	60·7	·421	·467	·455	·448	−·018	75	57	49	61	−2	3·4	3·9	3·7	−0·2	89·08	6·08	Dehra Dun	Upper Sub-Himalayas.
57·6	65·8	66·6	63·3	·467	·513	·449	·476	−·019	79	55	40	58	0	2·5	2·3	2·4	−0·6	41·07	4·72	Roorkee.	
58·8	66·1	67·8	64·3	·476	·519	·476	·490	−·023	76	53	39	56	−2	2·8	2·7	2·8	−0·2	28·46	4·32	Meerut.	
58·0	66·4	68·8	64·4	·461	·505	·480	·482	−·003	73	50	38	54	+2	2·1	2·0	2·1	−0·6	17·96	5·72	Lahore.	
60·1	65·4	67·5	64·3	·505	·495	·472	·491	−·012	78	52	40	56	−2	2·4	2·7	2·6	−1·0	30·51	5·40	Ludhiana.	
53·6	63·3	64·8	60·5	·388	·456	·427	·424	−·001	71	48	38	52	0	2·1	3·2	2·7	−0·5	14·52	3·85	Peshawar	Indus Valley and N.-W. Rajputana.
58·2‖	68·5	71·8	66·2	·452	·522	·518	·498	+·038	66	41	30	45	+2	1·7	1·9	1·8	−0·1	2·68	0·92	Jacobabad.	
65·7	72·3	74·6	70·9	·612	·675	·743	·677	+·007	75	58	61	65	−2	2·3	2·1	2·2	−0·9	1·37	0·54	Kurrachee.	
58·3	66·5	76·6	64·1	·420	·469	·427	·439	−·026	60	41	32	44	−5	2·9	4·0	3·5	−0·1	15·66	3·35	Jaipur	Eastern Rajputana, Central India and Gujarat.
59·6	66·1	67·9	64·5	·486	·482	·481	·483		74	44	38	52		2·7	3·5	3·1		13·11	2·08	Udaipur.	
59·8	67·9	68·6	65·4	·443	·465	·383	·430	−·050	56	37	25	39	−6	2·7	2·7	2·7	−0·7	7·85	2·20	Deesa.	
63·7	70·4	71·2	68·4	·566	·532	·506	·575		74	48	41	54		1·9	1·7	1·8		4·01	1·12	Jamnagar.	
62·6	67·1	67·9	65·9	·550	·540	·535	·543	+·022	88	58	55	67	+3	4·8	6·0	5·4	+0·8	58·05	4·00	Belgaum	Deccan.
62·3	68·6	69·5	66·8	·494	·523	·470	·496	−·003	68	46	35	49	−1	4·4	6·1	5·3	+0·5	24·92	5·23	Sholapur.	
61·2	66·4	67·7	65·1	·521	·476	·449	·482	−·003	82	45	38	55	+2	4·0	5·0	4·5	+0·1	28·66	2·38	Poona.	
61·5†	68·9	70·1	66·8†	·521†	·523	·462	·511†	+·002†	77†	46	34	54	0†	4·0	4·7	4·4	+0·6	26·69	3·58	Akola.	
59·8	65·5	66·1	63·8	·438	·461	·414	·438	−·028	63	46	36	49	−3	3·9	4·4	4·2	+0·1	43·65	5·10	Buldana.	
60·4	68·2	69·9	66·2	·467	·521	·469	·486	−·012	64	47	34	48	−3	3·5	4·1	3·8	+0·4	17·07	1·90	Khandwa.	
63·0	69·6	71·0	67·9	·526	·582	·545	·551	+·023	72	53	42	56	+2	4·4	5·7	5·1	+0·6	37·62	3·50	Nagpur.	
63·4	70·4	71·8	68·6	·544	·599	·569	·571		74	52	42	56		3·9	5·3	4·6		10·82	3·34	Nagpur (Sany. Comsr.'s Office).	
?	70·4	71·2	?	?	·602	·566	·597	?	?	55	45	59	?	4·2	5·0	4·6	+0·8	30·99	1·66	Hyderabad (Deccan).	
71·0	74·2	75·7	73·6	·716	·769	·802	·763	−·013	80	71	70	74	−3	4·1	4·1	4·1	−0·2	75·32	5·68	Bombay	West Coast.
71·1	74·5	75·9	73·8	·736	·758	·783	·759	−·002	88	69	66	75	−3	3·7	3·7	3·7	0	134·29	13·76	Karwar.	
66·9	73·1	73·6	71·4	·646	·677	·650	·658		86	59	52	66		4·6	6·7	5·7		37·80	3·30	Periyakulam	South India.
69·8	74·3	75·6	73·2	·704	·722	·704	·709	+·021	89	61	51	67	0	4·8	6·1	5·5	+0·9	40·47	4·07	Salem.	
64·4	70·0	70·6	68·3	·565	·618	·580	·588	+·081	80	62	51	64	+6	5·5	5·7	5·6	+0·6	21·15	1·91	Chitaldroog.	
62·8	67·5	67·6	66·0	·551	·572	·509	·544	+·010	89	63	49	67	0	4·8	5·6	5·2	+0·7	37·00	3·39	Bangalore.	
62·1	67·0	66·3	65·3	·546	·549	·515	·537	+·010	92	60	54	68	0	6·0	7·1	6·6	+0·6	33·46	3·46	Hassan.	
64·7	68·8	68·8	67·4	·594	·583	·525	·568	+·019	90	59	48	66	+1	7·2	7·2	7·2	+1·7	32·43	1·89	Mysore.	

† Mean of 11 months.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

Meteorological Province.	Station.	Elevation of Bar-Cistern above sea level in feet.	Pressure.						Temperature of air.								
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean daily pressure.	Variation from normal.	Mean reduced to S. L. and for gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
South India—*contd.*	Madras	22	29·894	29·778	·116	29·840	+·001	29·791	91·5	75·5	16·0	103·5	59·5	44·0	86·3	86·3	82·3	+0·5
	Bellary	1,475	28·444	28·309	·135	28·379	0	·778	93·9	72·1	21·8	109·0	55·1	53·9	84·0	90·0	81·6	+1·1
	Waltair	226	29·661	29·551	·110	29·606		·772	87·2	75·9	11·3	100·0	63·5	36·5	83·9	83·9	80·7	
Hill Station, Baluchistan.	Quetta	5,502	24·651	24·573	·078	24·685	+·021		74·6	42·8	31·8	100·2	17·5	82·7	66·2	71·5	57·9	−0·2
Hill Stations, Northern India.	Leh	11,503	19·723	19·634	·089	19·684	+·020		53·3	28·1	25·2	83·2	−8·5	91·7	43·8	50·1	40·2	−1·0
	Srinagar	5,204	24·903	24·824	·084	24·858	+·009		67·1	44·0	23·1	95·0	19·0	76·0	56·1	65·1	55·1	+0·7
	Kailang	10,087	20·962	20·883	·079	20·930	?		56·2	30·5	25·7	82·3	−3·0	85·3	45·5	49·6	40·7	−0·2
	Simla (Ridge)	7,224	23·130	23·081	·049	23·098	+·019		60·6	49·4	11·2	84·4	24·2	60·2	56·4	57·5	54·2	−1·4
	Chakrata	7,022	·289	·238	·051	·256	+·003		63·5	49·3	14·2	85·3	25·8	59·5	58·0	58·6	55·1	−0·7
	Ranikhet	6,069	24·113	24·043	·070	24·066	+·013		67·8	53·6	14·2	89·9	29·4	60·5	62·7	64·1	59·8	0
	Muktesar		22·868	22·806	·062	22·837			64·6	43·2	16·4	87·4	25·9	61·5	58·8	59·6	55·2	
	Katmandu	4,388	25·547	25·445	·102	25·495	?		77·8	54·1	23·7	93·2	30·2	63·0	68·6	72·2	64·6	−0·3
	Darjeeling †	7,376	23·014	22·951	·063	22·981	+·004		60·1	48·6	11·5	72·3	28·4	43·9	56·1	58·0	53·8	+1·1
Hill Stations, Central India.	Mount Abu	3,945	26·042	25·970	·072	26·002	−·010		76·8	63·1	13·7	98·2	36·0	62·2	72·1	74·7	69·4	+1·2
	Pachmarhi	3,528	·455	26·365	·090	·407	+·010		79·9	61·2	18·7	102·9	37·8	65·1	74·4	77·9	70·2	+0·6
	Chikalda	3,642	·337	·238	·099	·284	0		80·0	64·2	15·8	102·4	43·0	59·4	73·8	78·1	71·7	+0·5
Hill Station, South India.	Wellington	6,200	24·269	24·199	·070	24·235	+·010		71·7	53·9	17·8	80·8	33·6	47·2	67·7	66·7	61·6	+0·5
	Kodaikanal	7,588	22·853	22·784	·069	22·815			53·9	51·2	12·7	73·6	39·1	34·5	61·0	58·9	56·2	
Extra India	Aden	94	29·846	29·733	·113	29·786	+·012	·811	87·7	78·2	9·5	98·3	66·8	31·5	84·3	86·1	82·7	+0·6
	Perim	201	·715	·605	·110	·656	+·020	·789	89·9	79·7	10·2	104·3	69·4	34·9	86·1	86·9	84·0	+0·1
	Minicoy*	7	·963	·888	·075	·922		·854	87·0	?	?	98·0	?	?	84·5	84·1	?	
	Zanzibar	73	30·012	·906	·106	·959	+·016	·959	83·2	76·0	7·2	91·0	69·6	21·4	79·7	82·6	79·5	−0·1
	Port Victoria (Seychelles).	15	29·965	·904	·091	·950	+·005	·889	82·4	74·3	8·1	88·0	69·2	18·8	81·0	81·6	78·2	−1·2
	Mauritius (Pamplemousses).	181				·901	+·002	30·030				87·7	59·2	28·5			73·8	−0·1

* Mean of 10 months.

† Means of air temperature, wet bulb vapour tension and humidity are for 12 months.

II—*concld.*

at 65 Stations in India, Burma, etc., in the year 1901—concld.

Temperature, Wet-bulb.				Vapour Tension.					Humidity.					Cloud.				Rainfall.		Station.	Meteorological Province.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Total rainfall for the year.	Heaviest rainfall during the year.		
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
	76·7	77·4	76·1	P	·787	·824	·825	+·041	P	62	66	75	+2	5·3	4·9	5·1	+0·2	59·34	10·30	Madras	South India—*concld.*
65·1	68·6	69·9	67·9	·541	·512	·486	·513	−·036	69	44	35	50	−4	6·4	7·6	7·0	+2·0	21·06	2·22	Bellary.	
69·2	74·6	75·1	73·0	·636	·746	·765	716		70	64	65	66		5·3	5·6	5·5		47·29	3·99	Waltair.	
39·6	51·0	52·9	47·8	·237	·240	·228	·235	−·015	79	38	31	49	0	1·5	2·4	2·0	−0·3	5·00	0·79	Quetta	Hill Station, Baluchistan.
23·8	32·5	36·1	30·8	·115	·121	·125	·120	−·015	62	33	30	42	−9	4·0	5·1	4·6	−0·9	3·12	0·33	Leh	Hill Stations, Northern India.
42·2	53·3	60·3	52·1	·231	·426	·546	·417	+·056	86	84	79	83	+6	3·9	4·7	4·3	−0·3	24·33	1·50	Srinagar.	
28·5	37·8	39·4	35·2	·162	·192	·177	·178	−·002	84	57	49	63	0	4·7	6·0	5·4	−0·2	18·40	2·32	Kailang.	
43·4	47·5	48·9	46·6	·240	·258	·280	·260	−·028	65	54	57	59	−2	4·1	4·9	4·5	−0·6	72·19	8·94	Simla (Ridge).	
44·6	49·9	50·6	48·3	·264	·293	·311	·291	−·011	70	58	60	63	−1	3·6	4·7	4·2	−0·5	75·01	5·53	Chakrata.	
48·3	53·5	54·4	52·1	·304	·338	·347	·330	−·015	70	53	56	62	−3	3·8	4·3	4·1	−0·3	51·36	3·30	Ranikhet.	
43·2	50·1	51·4	48·2	·247	·296	·319	·287		68	57	59	62	0	3·7	4·5	4·1		56·86	4·56	Muktesar.	
52·7	60·7	62·2	58·5	·417	·473	·470	·453	+·005	91	66	57	71	0	4·2	5·2	4·7	+0·1	47·49	2·23	Katmandu.	
47·1	53·1	54·5	51·6	·225	·391	·407	·374	+·015	89	82	81	84	−1	5·8	6·5	6·2	−0·5	108·54	4·96	Darjeeling.	
53·9	58·6	59·3	57·4	·329	·358	·362	·350	−·016	56	46	42	48	−5	3·2	3·5	3·4	−0·3	19·27	1·97	Mount Abu	Hill Stations, Central India.
55·9	62·1	63·3	60·5	·412	·432	·429	·424	+·012	74	52	47	58	0	4·3	4·9	4·6	+0·5	85·21	5·03	Pachmarhi.	
57·4	62·0	63·8	61·1	·409	·432	·440	·427	−·005	67	54	49	56	−2	3·4	4·3	3·9	−0·5	59·97	5·91	Chikalda.	
51·7	59·4	59·8	57·0	·368	·427	·447	·414	+·022	86	63	69	73	+1	5·9	7·1	6·5	+0·8	62·12	3·90	Wellington	Hill Station, South India.
47·0	54·4	55·2	52·1	·289	·363	·404	·350		75	68	82	76		5·6	7·3	6·5		66·29	3·74	Kodaikanal.	
71·4	75·2	74·4	73·7	·688	·763	·702	·717	−·023	71	64	56	64	−3	3·1	2·2	2·7	+0·2	2·21	1·00	Aden	Extra India.
74·9	79·0	79·0	77·6	·811	·912	·901	·875	+·116	80	73	71	74	+10	1·5	0·8	1·2	−0·9	3·47	0·80	Perim.	
P	77·9	77·6	P	P	·871	·863	P		P	74	74	P		4·8	5·5	5·2		57·45	3·25	Minicoy.	
71·9	75·5	75·6	74·3	·739	·826	·798	·787	−·005	81	82	72	78	0	7·0	5·6	6·3	+1·5	73·77	4·47	Zanzibar.	
72·3	75·6	75·6	74·5	·773	·813	·810	·801	+·013	91	77	75	81	+3	5·8	6·1	6·0	−0·2	103·32	5·15	Port Victoria (Seychelles).	
							·631	+·007				75	+1					56·47	12·22	Mauritius (Pamplemousses).	

Corrigenda in India Monthly Weather Reviews for the year 1901.

TEXT.

Page.	Column.	Part.	Correction.
9	2	January 1901 . .	*For* "slight" *read* "very slight" in the 5th line of paragraph 2.
9	2	Ditto ,, . .	*For* "+·031" and "+·022" *read* "+.001" and "—·008", respectively, against Darjeeling in figure columns 1 and 3 of the tabular statement.
9	2	Ditto ,, . .	*For* "western" *read* "ern" in the 3rd line of paragraph 3.
29	2	Ditto ,, . .	*For* "29th January" *read* "9th January" in the date column of the 2nd tabular statement.
73	2	February ,, . .	*Insert* "the weather was fine" after "India," in the 10th line of paragraph 1.
77	1	Ditto ,, . .	*For* "strongly" *read* "slightly" in the 15th line of paragraph 1.
82	1	Ditto ,, . .	*For* "0·087" *read* "0·057" in the 6th line of paragraph 1.
82	2	Ditto ,, . .	*For* "+·087" and "+·063" *read* "+·057" and "+·033," respectively, against Darjeeling in figure columns 1 and 3 of the tabular statement.
146	1	March ,, . .	From the 3rd line of paragraph 2, *omit* "the Sikkim Himalayas and".
146	2	Ditto ,, . .	*For* "+·097" and "+·035" *read* "+·067" and "+·005," respectively, against Darjeeling in the figure columns 1 and 3 of the tabular statement.
174	...	Ditto ,, . .	*For* "0·36" and "+0·18" *read* "0·37" and "+·019", respectively, against Bombay Deccan in the figure columns 3 and 5 of the tabular statement.
175	2	Ditto ,, . .	*For* "district" *read* "districts" in the 2nd line of paragraph 1.
177	2	Ditto ,, . .	Insert "1·70" against Kotgarh in the figure column of the 2nd tabular statement.
179	2	Ditto ,, . .	*For* "3 per cent." *read* "300 per cent." in the 4th line of paragraph 2.
207	2	April ,, . .	*For* "+·044" and "+·046" *read* "+·014" and "+·016", respectively, against Darjeeling in the figure columns 1 and 3 of the 2nd tabular statement.
211	2	Ditto ,, . .	*For* "·626" *read* "29·626" against Roorkee in the 1st figure column of the 1st tabular statement.
272	2	May ,, . .	*For* "+·069" and "+·062" *read* "+·039" and "+·032", respectively, against Darjeeling in the figure columns 1 and 3 of the tabular statement.
348	1	June ,, . .	*For* "n" *read* "in" in the 11th line of paragraph 3.
355	2	Ditto ,, . .	*Insert* "Darjeeling," before "Mount Abu" in the 7th line of the paragraph 1.
355	2	Ditto ,, . .	*For* "—·015" and "+·011" *read* "—·045" and "—·019", respectively, against Darjeeling in the figure columns 1 and 3 of the tabular statement.
392	...	Ditto ,, . .	*For* "26·87" and "—0·27" *read* "26·90" and "—0·24", respectively, against Konkan in the figure columns 3 and 5 of the tabular statement.
392	...	Ditto ,, . .	*For* "4·26" and "—1·43" *read* "4·27" and "—1·42", respectively, against Khandesh in the figure columns 3 and 5 of the tabular statement.
431	2	July ,, . .	*For* "+·021" and "+·040" *read* "—·009" and "+·010", respectively, against Darjeeling in the figure columns 1 and 3 of the 2nd tabular statement.
464	...	Ditto ,, . .	*For* "41·11" and "+1·08" *read* "41·09" and "+1·06", respectively, against Konkan in the figure columns 3 and 5 of the tabular statement.
512	2	August ,, . .	*For* "+·007" and "+·041" *read* "—·023" and "+·011", respectively, against Darjeeling in the figure columns 1 and 3 of the 2nd tabular statement.
667	2	October . ,, . .	*For* "—·024" *read* "+·024" against Dhubri in the 3rd figure column of the 1st tabular statement.

Corrigenda in India Monthly Weather Reviews for the year 1901—*contd.*

TABLES I AND II.

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.*	Correction.
66, 134, 194, 258, 340, 418, 496 and 576.	January to August 1901	I	Darjeeling . . .	Pressure, 8 A.M., etc.	2	*For* "+·031", "+·087", "+·097", "+·044", "+·069", "—·015", "+·021" and "+·007" *read* "+·001", "+·057", "+·067", "+·014", "+·039", "—·045", "—·009" and "—·023", respectively.
67	January 1901 . .	I	Ranikhet . . .	Rainfall . .	6	*For* "+1·0" *read* "+1·09".
68	Ditto ,, . .	II	Karwar . . .	Temperature of air	1	*For* "6·2" *read* "86·2."
70, 138, 198, 262, 344, 422, 500 and 580.	January to August 1901	II	Darjeeling . . .	Pressure . .	5	*For* "+·027", "+·059", "+·082", "+·021", "+·054", "+·011", "+·019" and "—·005" *read* "—·007", "+·035", "+·058", "—·003", "+·030", "—·013", "—·005" and "—·029", respectively.
128	February 1901 . .	I	Dwarka . . .	Elevation of bar-cistern, etc.	...	*For* "27" *read* "37".
184	March ,, . .	I	Silchar . . .	Ditto . .	...	*For* "100" *read* "104".
262	April ,, . .	II	Chitaldroog . .	Temperature, wet-bulb.	1	*For* "76·8" *read* "66·8".
262	Ditto ,, . .	II	Katmandu . . .	Ditto . .	2 and 4	*For* "40·1" and "49·7" *read* "60·1" and "56·4", respectively.
332	May ,, . .	I	Motihari . . .	Pressure, 8 A.M., etc.	1 and 3	*For* "29·492" and "29·674" *read* "29·493" and "29·675", respectively.
332	Ditto ,, . .	I	Motihari . . .	Temperature of air .	1, 4, 6 and 8	*For* "81·3", "73·4", "84·9" and "23·0" *read* "81·4", "73·8", "85·1" and "32·6", respectively.
333	Ditto ,, . .	I	Motihari . . .	Wind velocity .	1	*For* "6·2" *read* "6·31".
333	Ditto ,, . .	I	Motihari . . .	Hygrometry, 8 A.M.	2	*For* "1·025" *read* "1·029".
340	Ditto ,, . .	I	Mussooree . . .	Elevation of bar-cistern, etc.	...	*For* "6,709" *read* "6,705".
344	Ditto ,, . .	II	Bangalore . . .	Temperature, wet bulb.	4	*For* "66·9" *read* "68·9".
487	July ,, . .	I	III.—Assam . .	Rainfall . . .	6	*For* "—3·27" *read* "—3·28".
487	Ditto ,, . .	I	Silchar . . .	Ditto . . .	6	*For* "+0·80" *read* "+0·83".
488, 568 and 644	July to September 1901	I	Balasore . . .	Elevation of bar-cistern, etc.	...	*For* "46" *read* "48".
490, 570 and 646	Ditto ,, .	I	Bhavnagar Para . .	Ditto . .	...	*For* "35" *read* "55".
572 and 648.	August and September 1901.	I	Hanumkonda . .	Ditto . .	...	*For* "865" *read* "871".
642	September 1901 . .	I	Tezpur	Ditto . .	...	*For* "292" *read* "252".
642	Ditto ,, . .	I	Comilla . . .	Temperature of air .	14, 18 and 20	*For* "88·9," "82·6" and "12·6" *read* "89·0", "82·7" and "12·7", respectively.
651	Ditto ,, . .	I	Srinagar . . .	Rainfall .	46, 48, 49 and 51	*For* "1·80", "—1·06", "7·07" and "—14·96" *read* "1·82", "—1·04", "7·09" and "—14·94", respectively.
654	Ditto ,, . .	II	Karwar . . .	Temperature of air.	10, 12, 13 and 15	*For* "85·5", "8·7", "87·1" and "16·6" *read* "83·4", "8·6", "85·1" and "14·6", respectively.
656 and 726.	September and October 1901.	II	Darjeeling . . .	Pressure . .	8	*For* "+·032" and "+·003" *read* "+·008" and "—·021", respectively.
713	October 1901 . .	I	I.—Burma Coast and Bay Islands.	Rainfall . .	46 and 48	*For* "14·20" and "+4·63" *read* "14·03" and "+4·46", respectively.
713	Ditto ,, . .	I	Akyab	Ditto . .	46, 48, 49 and 51.	*For* "17·31," "+6·87," "17·31" and "+6·87" *read* "15·78", "+5·34", "15·78" and "+5·34", respectively.
725	Ditto ,, . .	II	Nagpur . . .	Cloud . . .	37	*For* "—4" *read* "—0·4".
726	Ditto ,, . .	II	Srinagar . . .	Temperature of air .	10	*For* "78·3" *read* "73·3".
726	Ditto ,, . .	II	Zanzibar . . .	Elevation of bar-cistern, etc.	3	*Omit* "15".
726	Ditto ,, . .	II	Port Victoria (Scychelles)	Ditto . .	3	*For* "181" *read* "15".
726	Ditto ,, . .	II	Mauritius (Pamplemouses)	Ditto . .	3	*Insert* "181".

* *N.B.*—From September 1901, columns in Tables I and II have been numbered, which have been quoted here for reference; previous to September 1901 column numbers are given for each kind of heading in the tables.

Corrigenda in India Monthly Weather Reviews for the year 1901—*concld.*

TABLES I AND II—*concluded.*

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.*	Correction.
787	November 1901 . .	I	Rangpur . . .	Wind velocity .	36 and 37	*For* "1·9", and "2·0" *read* "2·3" and "2·5", respectively.
799	Ditto „ . .	II	Madras . . .	Vapour tension .	28	*For* "—·046" *read* "+·046".
845	December „ . .	I	Rangpur . . .	Wind velocity .	36 and 37	*For* "0" *read* "1·3".
851	Ditto „ . .	I	Leh	Rainfall . .	46, 48, 49 and 51.	*For* "0·08", "—0·11", "0·08" and "—0·11" *read* "0·09", "—0·10", "0·09" and "—0·10", respectively.
853	Ditto „ . .	I	Teheran . . .	Ditto . .	47 and 48	*Insert* "1·37" and "—0·96", respectively.
853	Ditto „ . .	I	Ispahan . . .	Ditto . .	47 and 48	*Insert* "0·54" and "—0·01", respectively.
853	Ditto „ . .	I	Aden	Ditto . .	46, 48, 49 and 51.	*For* "0·33", "—0·04", "0·33" and "—0·04" *read* "0·35", "—0·02", "0·35" and "—0·02", respectively.
856	Ditto „ . .	II	Leh	Temperature of air.	10, 12, 13, 15, 17, 18 and 19.	*For* "36·1", "23·6", "46·1", "38·1", "32·3", "23·6" and "0" *read* "35·2", "22·7", "43·1", "35·1", "32·0", "23·3" and "—0·3", respectively.
857	Ditto „ . .	II	Leh	Vapour tension .	26, 27 and 28.	*For* "·040", "·044" and "—·036" *read* "·042", "·045" and "—·035", respectively.
857	Ditto „ . .	II	Leh	Humidity . .	31	*For* "20" *read* "22".
857	Ditto „ . .	II	Minicoy . . .	Wind direction .	40, 41 and 47.	*For* "22", "12" and "N59°E" *read* "23", "13" and "N 60°E", respectively.
857	Ditto „ . .	II	Minicoy . . .	Wind steadiness .	49	*For* "63" *read* "64".
857	Ditto „ . .	II	Minicoy . . .	Wind velocity .	51	*For* "100†" *read* "100".

N.B.—From September 1901, columns in Tables I and II have been numbered, which have been quoted here for reference; previous to September 1901 column numbers are given for each kind of heading in the tables.

EXPLANATION OF PLATES.

PLATE I.—A chart of India showing the 11 meteorological provinces and 57 districts of India.

PLATE II.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of January and February 1901. This chart and the three following charts have been prepared to illustrate the data given in Table XXVIII. These charts are drawn up in the same manner as the rainfall chart (Plate V) in the Monthly Weather Reviews of the year 1901.

PLATE III.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of March to May 1901.

PLATE IV.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of June to October 1901.

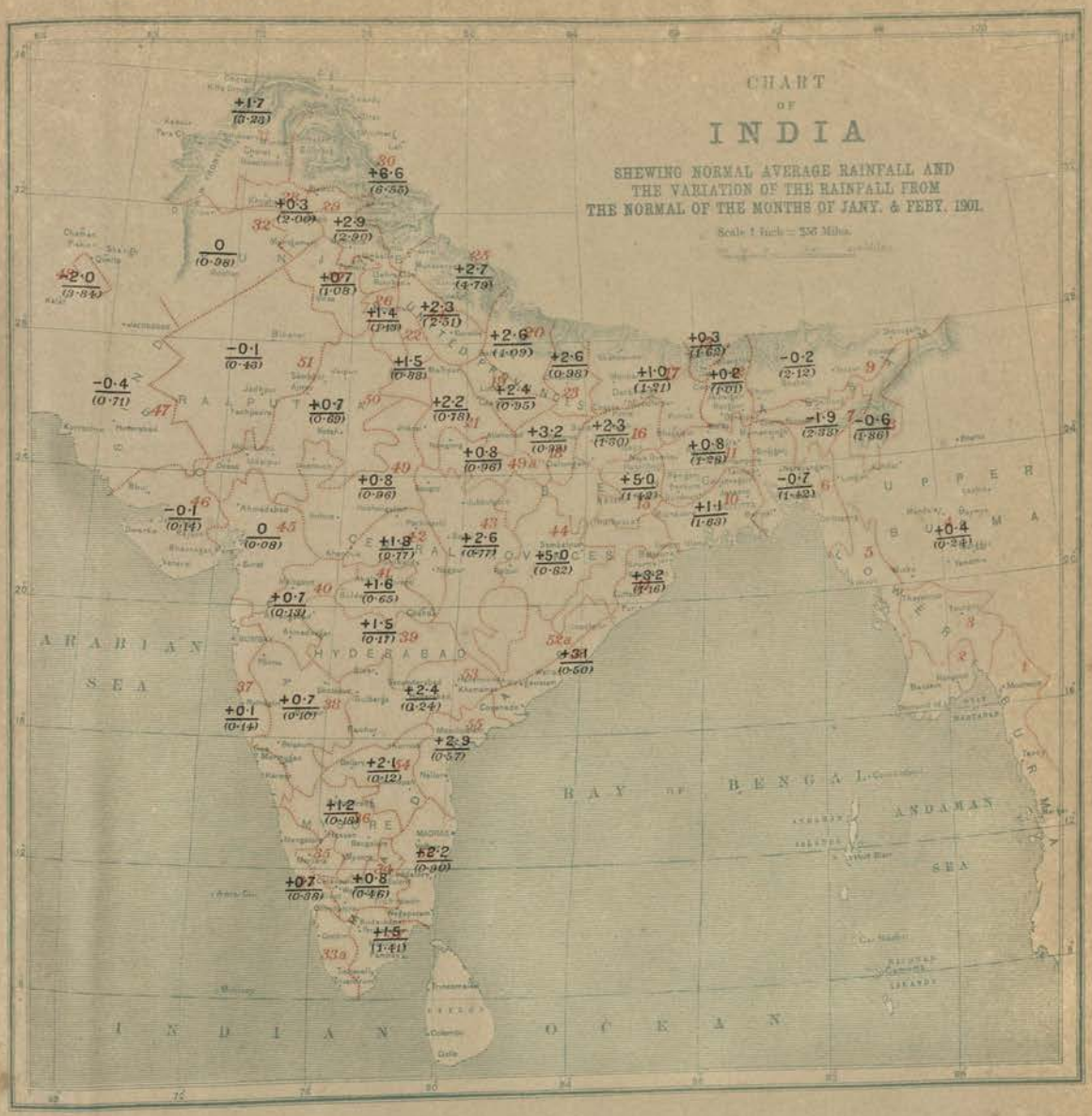
PLATE V.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of November and December 1901.

PLATE VI.—Chart showing the tracks of the more important cyclonic storms of 1901 in the Indian area during the south-west monsoon, a brief summary of which is given on pages 898 and 899.

Explanation.

The name of the districts can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

1. Tenasserim	17. North Bihar	32. West Punjab	47. Sind
2. Lower Burma Deltaic	18. United Provinces, East	33. Malabar	48. Baluchistan Hills
3. Central do.	19. South Oudh	33a Travancore	49. Central India, East
4. Upper do.	20. North do.	34. Madras, South Central	49a Do. do.
5. Arakan	21. United Provinces, Central	35. Coorg	50. Rajputana East, Central India West
6. East Bengal	22. Do. do., West	36. Mysore	51. West Rajputana
7. Assam, Surma	23. Do. do., East Submontane	37. Konkan	52. Madras, East Coast, North
8. Do., Hills	24. Do. do., West do.	38. Bombay Deccan	52a. Do. do. do. (a)
9. Do., Brahmaputra	25. Do. do., Hills	39. Hyderabad, North	53. Hyderabad, South
10. Deltaic Bengal	26. South East Punjab	40. Khandesh	54. Madras, Central
11. Central do.	27. South do.	41. Berar	55. Madras, East Coast, Central
12. North do.	28. Central do.	42. Central Provinces, West	56. Do. East Coast, South
13. Bengal Hills	29. Punjab, Submontane	43. Do., Central	57. Madras, South
14. Orissa	30. Do., and North-West Frontier Province, Hills	44. Do., East	
15. Chota Nagpur	31. North Punjab	45. Gujarat	
16. South Bihar		46. Kathiawar & Cutch	



Explanation.

The Chart gives the variations of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

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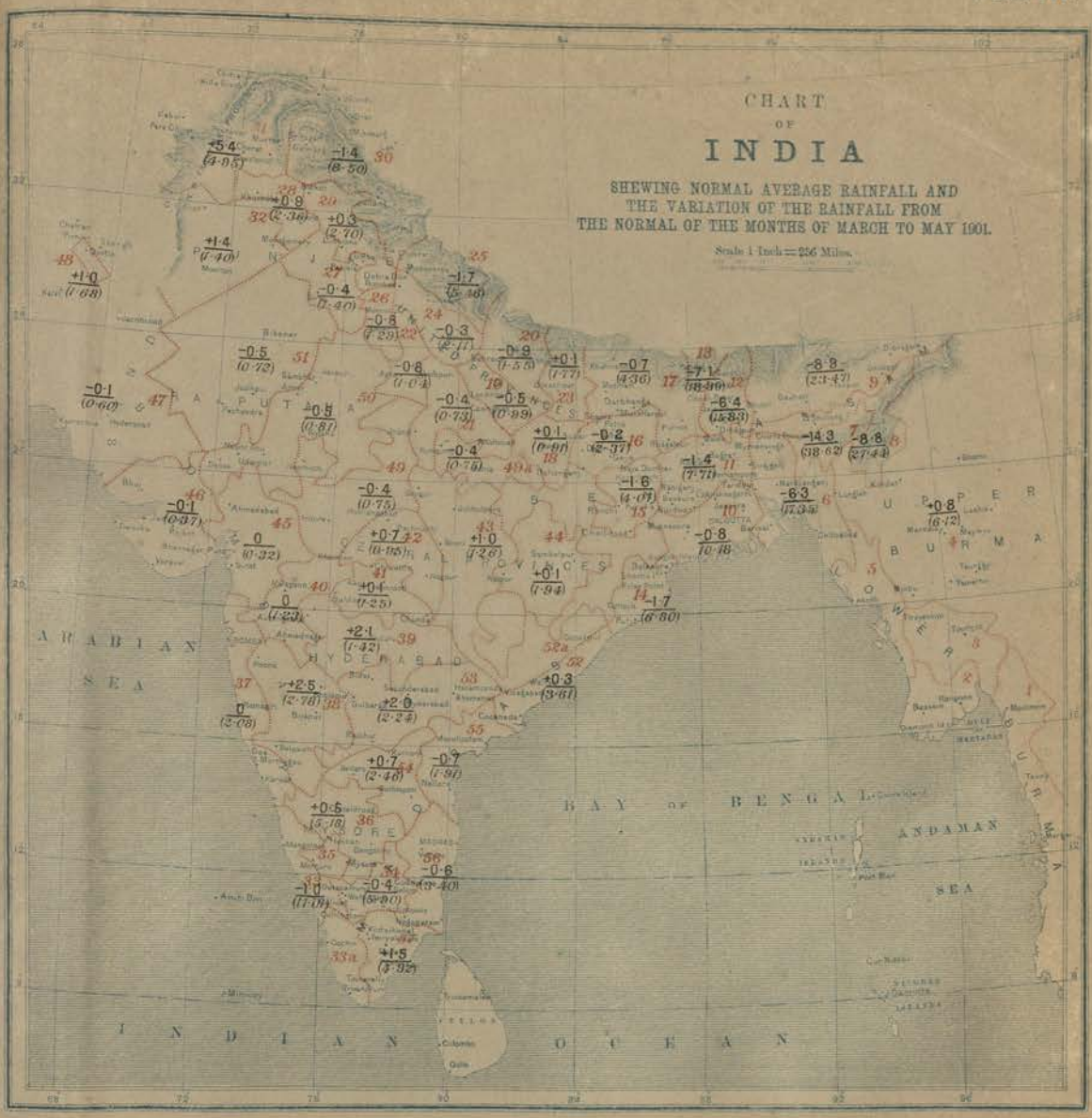
6. East Bengal
7. Assam, Surma
8. Do., Hills
9. Do., Brahmaputra
10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. United Provinces, East
19. South Oudh
20. North do.
21. United Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., and North-West Frontier Province, Hills
31. North Punjab
32. West Punjab
33. Malabar
33a Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar & Cutch
47. Sind
48. Baluchistan Hills
49. Central India, East
49a Do. do.
50. Rajputana East, Central India West
51. West Rajputana
52. Madras, East Coast, North
52(a). Do. do. do. (a)
53. Hyderabad, South
54. Madras, Central
55. Madras, East Coast, Central
56. Do. East Coast, South
57. Madras, South



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17. North Bihar
18. United Provinces, East
19. South Oudh
20. North do.
21. United Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., and North-West Frontier Province, Hills
31. North Punjab
32. West Punjab
33. Malabar
33a. Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar & Cutch
47. Sind
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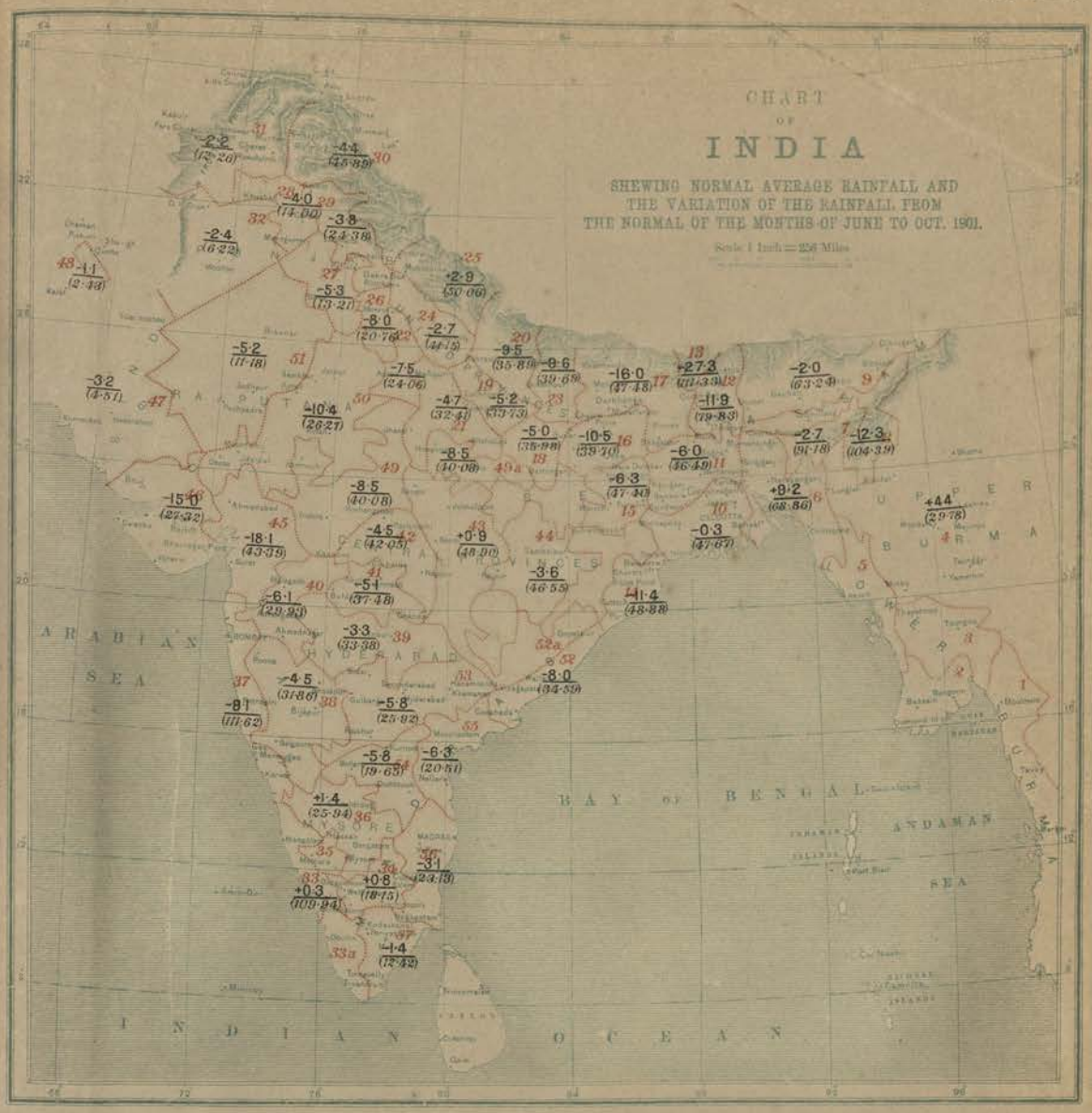

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12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. United Provinces, East
19. South Oudh
20. North do.
21. United Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
25. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., and North-West Frontier Province, Hills
31. North Punjab
32. West Punjab
33. Malabar
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34. Madras, South Central
35. Coorg
36. Mysore
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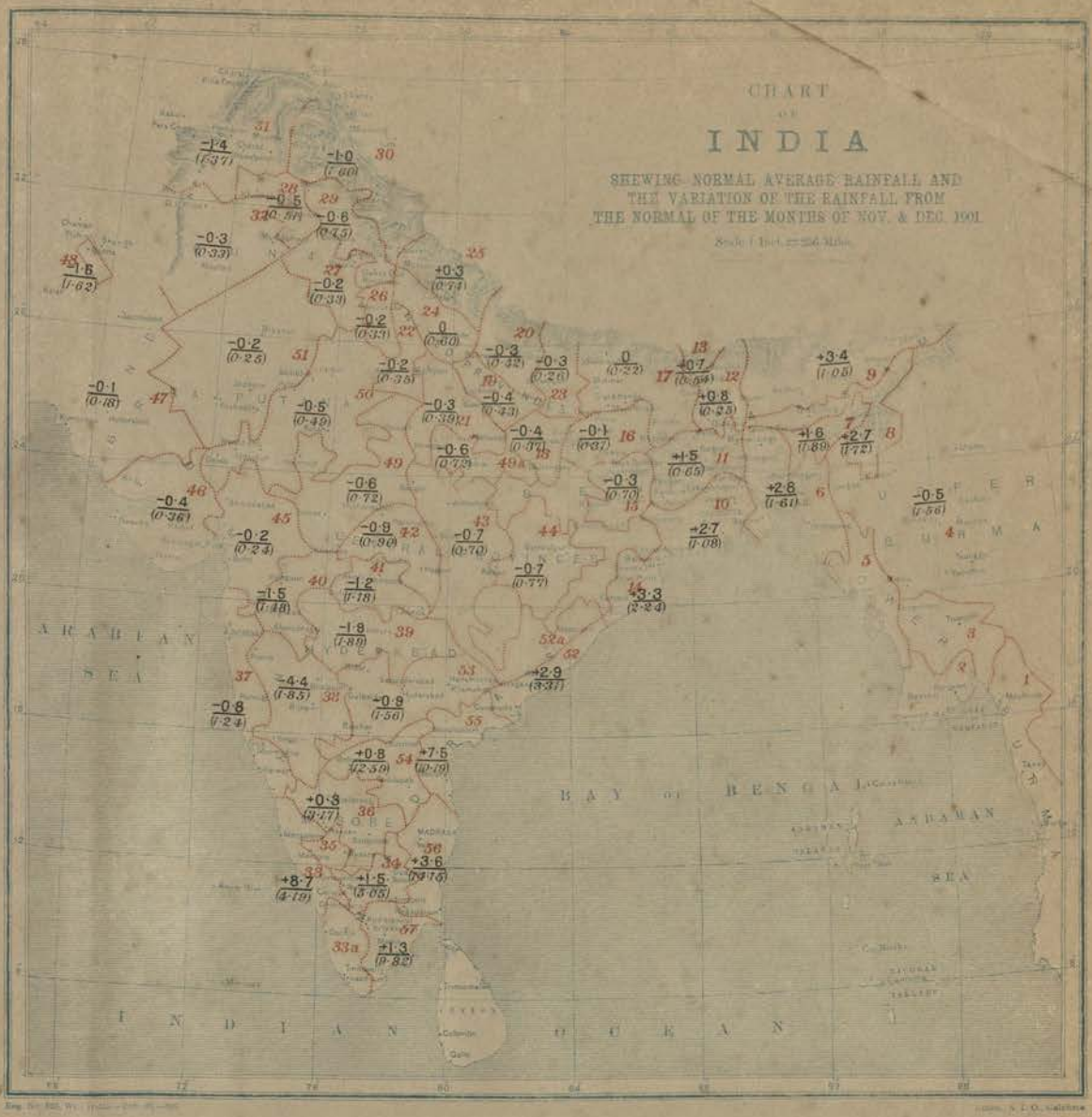

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17. North Bihar
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19. South Oudh
20. North do.
21. United Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
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GOVERNMENT OF INDIA.

METEOROLOGICAL DEPARTMENT.

THE

INDIA WEATHER REVIEW

FOR THE YEAR

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UNDER THE DIRECTION OF

SIR JOHN ELIOT, M.A., F.R.S., K.C.I.E.,

METEOROLOGICAL REPORTER TO THE GOVERNMENT OF INDIA AND DIRECTOR GENERAL OF INDIAN OBSERVATORIES.

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1903.

ANNUAL SUMMARY, 1902.

INTRODUCTION.

The present annual summary completes the discussion of the meteorology of India for the year 1902.

It should be noted that in the monthly reviews it is attempted to present the facts and data from two different points of view. Meteorological data in India are chiefly utilized for the following purposes:—

1st.—In the discussion of the prevalence and spread of diseases, more especially of cholera and other diseases of an epidemic character.

2nd.—In connection with agricultural questions, more especially the progress and character of the crops as determined by the weather conditions of the period.

India has hence been divided into two groups of divisions from what may be termed the medical and agricultural stand-points. For the comparison of medical and meteorological statistics, India is arranged into the following provinces, which are believed to be fairly homogeneous so far as the conditions of the prevalence of the more common diseases are concerned:—

(1) Burma Coast and Bay Islands.
(2) Burma Inland.
(3) Assam.
(4) Bengal and Orissa.
(5) Gangetic Plain and Chota Nagpur.
(6) Upper Sub-Himalayas, including the sub-montane districts of the United Provinces and the Punjab and the meteorological divisions of the South-East, South, Central and North Punjab.
(7) North-West Frontier, Indus Valley and North-West Rajputana.
(8) East Rajputana, Central India and Gujarat.
(9) Deccan.
(10) West Coast.
(11) South India.

The data for each of these divisions are given in Table I in large figures, and the portion of each monthly review, entitled, "Summary of the chief features of the weather in India during the month," is intended to give a sketch of the broader and more important features of the weather in India for the use of those who study the relations between the prevalence and spread of diseases and the weather conditions prevailing at the time in India.

According to the second method of arrangement, from the agricultural stand-point, India is divided into 57 meteorological districts or divisions each of which is fairly homogeneous so far as the distribution of rainfall and the general character of the crops and the conditions of their growth are concerned. The following gives the two series of divisions arranged under the respective political areas or provinces to which they belong:—

Political Division or Province.	Meteorological Division or District.	Meteorological Province.
BURMA	Tenasserim and Bay Islands.	Burma Coast and Bay Islands.
	Lower Burma	
	Arakan	
	Central Burma	Burma Inland.
	Upper Burma	
ASSAM	Assam (Surma)	Assam.
	,, (Brahmaputra)	
BENGAL	East Bengal	Bengal and Orissa.
	Deltaic Bengal	
	Central Bengal	
	North Bengal	
	Orissa	
	Chota Nagpur	Gangetic Plain and Chota Nagpur.
	South Bihar	
	North Bihar	
UNITED PROVINCES OF AGRA AND OUDH.	United Provinces, East	
	United Provinces, Central	
	South Oudh	
	North Oudh	
	United Provinces, East Sub-montane.	
	United Provinces, West Sub-montane.	
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.	South-East Punjab	Upper Sub-Himalayas.
	South Punjab	
	Central Punjab	
	Punjab Sub-montane	
	North Punjab	
	West Punjab	North-Western Frontier, Indus Valley and North-West Rajputana.
BOMBAY, NORTH.	Sind	
RAJPUTANA AND CENTRAL INDIA.	West Rajputana	
	Central India, East	East Rajputana, Central India and Gujarat.
	Rajputana, East, Central India, West.	
BOMBAY, NORTH	Kathiawar and Cutch	
	Gujarat	
UNITED PROVINCES	United Provinces, West.	

Political Division or Province.	Meteorological Division or District.	Meteorological Province.
Bombay	Bombay Deccan	Deccan.
	Khandesh	
Berar	Berar	
Central Provinces.	Central Provinces. West	
	„ „ Central	
	„ „ East.	
Hyderabad or the Nizam's Dominions.	Hyderabad, North	
	„ South	
Bombay	Konkan	West Coast.
	Malabar	
Madras	Madras, South	South India.
	„ „ Central	
	„ East Coast, South	
	„ Central	
	„ East Coast, Central	
	„ East Coast, North	
Coorg and Mysore	Coorg	
	Mysore	
Hill Districts	Assam Hills	Hills.
	Bengal Hills	
	United Provinces Hills	
	Punjab and North-West Frontier Province Hills.	
	Baluchistan Hills	

The double grouping is shown in Plate I at the end of this summary.

The data of Table I in the monthly reviews and in the present annual part are obtained, with a few exceptions, from the observations telegraphed daily to Simla for publication in the Daily Weather Report. In the case of thermometric observations, they are telegraphed to the nearest half degree. Hence the maxima and minima temperature data of the second class observatories derived from these telegraphic reports and given in that table occasionally differ to some slight extent from the means of the more exact data (recorded to tenths of a degree) tabulated in the observation forms sent to the Calcutta Office, and which are used in the calculation of the mean temperature data in Table II. There is also another reason why the mean maxima and minima data in Tables I and II differ to a slight extent. In Table I the daily or 24 hours' period is assumed to end at 8 A.M., and in Table II at 4 P.M., and hence the maximum temperature in Table I for any month of thirty-one days at any station gives the mean for thirty-one periods of 24 hours ending at 8 A.M. of the 31st, and in Table II for the same number of 24 hours' periods ending at 4 P.M. on the 31st, and hence virtually of a monthly period one day in advance of the former. Similarly for months of 28, 29 or 30 days. These remarks will explain some of the slight discrepancies which may be found between the maxima and minima temperature mean data in Tables I and II, and hence also in the monthly mean variation data given in these tables in the monthly reviews and annual summary.

The methods of exposure of the instruments at observatories in India, and of the reduction of the observations and the calculation of mean data, have been fully stated and explained in the Annual Reports on the Meteorology of India, and need not be repeated. The reader is referred more especially to the Annual Report of the year 1885 and to the "Instructions to observers of the Indian Meteorological Department" for full information on this subject.

Solar Radiation.

It was stated in the Annual Report of 1889 that the observations of solar thermometers are liable to large and irregular changes which make them unfit for accurate observation in India, except perhaps at the first class observatories. The instruments were hence withdrawn from use, except at the following stations :—

Srinagar.	Jodhpur.	Bombay.
Simla.	Allahabad.	Leh.
Lahore.	Calcutta (Alipore).	Aden.

Observations of the solar thermometers were made during the year 1902 at these nine stations. The monthly averages of past years and their variations from the data of 1902 are given for eight of these stations in Tables I and II and the mean variation data for the past twelve years in Table III.

TABLE I.—*Average excess of maximum insolation over the corresponding maximum shade temperature.*

STATION.	Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla . . .	15—18	61·6	64·8	67·1	67·4	67·4	62·0	50·3	49·3	60·6	67·3	64·6	62·2	62·1
Lahore . . .	26—27	49·8	57·4	60·2	60·3	56·2	53·6	56·0	58·9	57·1	55·4	54·0	51·7	55·9
Jodhpur . . .	6	53·0	55·4	56·5	56·6	54·4	53·5	56·6	57·9	56·3	53·1	51·5	50·3	54·6
Allahabad . .	27	57·0	58·9	58·8	57·3	56·8	57·5	57·8	59·2	58·5	56·1	55·8	57·1	57·6
Calcutta (Alipore) .	25—26	52·0	53·6	54·1	54·8	55·7	53·3	54·7	55·2	56·0	55·5	52·8	51·9	54·1
Bombay . . .	26—27	53·3	54·6	53·7	54·1	53·8	48·5	44·5	43·6	52·6	53·4	53·1	52·6	51·9
Leh . . .	19	63·1	70·1	68·9	68·6	65·9	62·8	60·3	61·4	61·8	63·0	61·3	60·1	63·9
Aden . . .	17—20	52·1	52·9	52·1	48·6	46·2	42·6	43·1	45·1	49·7	52·0	50·4	50·7	48·8

TABLE II.—*Comparison of excess of sun over shade temperatures in 1902 with the averages of Table I.*

STATION.	Number of years intervening the observations of which are utilized for this comparison, has been in use.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla . .	3	−0·5	−2·1	−6·8	−7·6	−7·9	−9·0	−10·4	−8·4	−7·5	−7·2	−2·9	−3·6	−6·2
Lahore . .	17	−3·7	−5·9	−7·2	−7·3	−6·5	−4·9	− 5·3	−7·0	−3·6	−7·6	−7·0	−6·9	−6·1
Jodhpur . .	5	−0·3	+0·9	−0·5	−0·5	−1·0	−0·2	− 1·4	−2·0	−0·3	+1·0	−0·4	+0·6	−0·3
Allahabad . .	13	−2·1	−2·0	−4·3	−0·3	−1·8	−0·3	− 2·1	−0·1	+0·5	−1·2	+1·3	−2·2	−1·2
Calcutta (Alipore)	1	−5·6	−5·4	−3·3	−0·5	−2·7	−2·3	− 5·0	+0·7	+1·9	−0·4	+0·1	−1·1	−2·9
Bombay . .	17	−4·2	−7·7	−6·4	−2·9	−3·6	−1·9	− 2·2	−1·5	− 5·8	−3·3	−1·9	−5·6	−3·9
Leh . . .	7	−1·7	−3·4	−0·2	−0·5	−1·8	+3·6	+ 3·4	+5·0	+4·7	+3·1	+4·1	+1·9	+1·5
Aden . .	1	−0·4	+2·4	?	?	?	?	?	?	−2·1	?	−1·5	−2·5	?

TABLE III.—*Comparison of the annual mean excess of sun over shade temperature for each year of the period 1890-1901 with the averages of past years.*

STATION.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
	°	°	°	°	°	°	°	°	°	°	°	°
Simla . .	?	−0·4	−2·9	−1·3	−2·9	?	+2·6	+1·3	+3·5	?	+1·7	−3·7
Lahore . .	+2·5	+1·8	+0·9	+0·4	−0·4	−0·6	−0·7	−0·5	−1·0	−2·3	−7·3	−6·1
Jodhpur . .	?	?	?	?	?	?	?	?	?	?	−0·9	−0·5
Allahahad .	+0·8	+0·7	−0·6	−0·3	+0·1	−0·5	+0·4	+0·9	−0·6	−0·9	−1·0	−0·9
Calcutta (Alipore)	+0·8	?	?	+1·2	+1·2	+1·5	−0·2	−1·9	−0·1	−2·4	−7·0	−4·5
Bombay . .	+1·0	−0·5	0	+0·5	−0·1	+0·2	+0·5	+0·6	−1·0	−1·6	−6·5	−3·8
Leh . . .	−6·7	−3·6	+4·3	+1·3	+2·2	+1·4	+0·7	+1·3	−1·5	+0·7	+3·6	+1·6
Aden . .	?	+5·2	+4·0	+1·3	+0·5	+1·0	−2·1	−4·4	−4·2	−0·9	−4·3	+0·3

Nocturnal Radiation.

It was stated in the Annual Report of 1890 that the observations of the terrestrial radiation thermometers in India are nearly as unsatisfactory as those of the solar radiation thermometers. Observations of these instruments were recorded during the year 1902 at the following stations:—

Srinagar.	Jodhpur.	Bombay.
Simla.	Allahabad.	Leh.
Lahore.	Calcutta (Alipore).	Aden.

The following table, TABLE IV, gives the average data of past years for the above stations; TABLE V, the variations from the normal, and TABLE VI, the mean annual variation data for the past twelve years.

TABLE IV.—*Average depression of monthly mean nocturnal radiation temperatures below mean minimum shade temperatures.*

STATION.	Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Srinagar . . .	4—9	7·5	8·4	9·2	7·3	8·0	6·6	6·6	6·4	12·8	11·5	11·8	12·6	9·1
Simla . . .	11—14	6·8	6·4	7·4	7·7	6·7	5·4	3·3	3·0	4·8	8·1	8·9	7·6	6·3
Lahore . . .	25—26	9·3	9·1	8·6	9·1	8·6	5·9	3·8	4·1	6·2	9·4	10·2	9·5	7·8
Jodhpur . . .	5—7	10·7	9·6	10·0	8·3	4·7	2·7	1·9	2·0	4·6	10·1	10·6	10·2	7·1
Allahabad . .	25—26	10·8	11·4	12·6	12·1	8·9	5·0	3·1	2·7	4·0	8·9	12·1	11·9	8·6
Calcutta (Alipore) .	25—26	8·2	7·6	6·3	4·7	3·2	2·1	1·8	1·9	2·6	4·7	7·1	8·6	4·9
Bombay . . .	27	10·1	9·5	8·3	6·7	4·7	2·8	2·2	2·4	3·1	6·5	9·8	10·7	6·4
Leh . . .	18—20	10·5	9·0	10·7	11·4	11·1	11·5	10·2	10·9	12·1	14·7	15·1	11·9	11·6
Aden . . .	18—21	2·8	2·1	2·5	3·0	3·2	3·4	2·0	2·0	3·3	3·8	4·0	3·3	3·0

TABLE V.—*Comparison of mean monthly depression of nocturnal radiation temperatures in 1902 with the averages of Table IV.*

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Srinagar	+1·0	—0·4	—3·5	—1·9	—1·2	+0·6	—0·4	+6·2	+1·4	+4·3	+3·6	+4·7	+1·2
Simla	—1·4	0	+0·3	+0·1	—3·0	—2·0	+0·1	—0·6	—0·8	—2·1	—1·7	—1·1	—1·0
Lahore	+3·7	+2·9	+0·3	+1·9	+0·5	+0·9	+0·4	+0·9	+0·4	—0·5	+0·1	+1·1	+1·1
Jodhpur	—0·8	0	—1·8	—2·2	—2·2	—1·1	—0·5	—0·4	—0·6	—1·8	—0·9	—1·4	—1·1
Allahabad	+1·7	+3·0	+1·2	+0·3	—0·8	+0·7	—1·0	+0·1	—0·6	+0·7	+1·0	+1·9	+0·7
Calcutta (Alipore) . .	—2·7	—2·1	—3·0	—2·6	—1·9	—1·0	—0·9	—1·2	—1·1	—2·2	—2·8	—3·8	—2·1
Bombay	—1·6	—1·9	—0·5	—1·1	—1·2	+0·1	—0·2	0	—0·8	—1·7	—2·2	—4·7	—1·3
Leh	+1·3	+6·7	+0·2	+0·5	+1·1	—0·8	+0·5	+0·1	—2·1	+1·0	—0·8	—9·6	—0·2
Aden	—0·5	+0·1	—2·2	—1·5	+1·4	+2·8	?	+1·8	+2·2	?	+2·1	+3·8	?

TABLE VI.—*Comparison of the mean annual depression of nocturnal radiation temperatures with the averages of past years.*

STATION.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
	°	°	°	°	°	°	°	°	°	°	°	°
Simla . .	+2·3	+2·2	+3·1	+1·8	+1·6	?	—3·3	—1·6	—3·3	—2·7	—2·4	—2·6
Lahore . .	—1·2	—1·7	—0·9	—0·7	+0·7	+1·0	—0·3	—0·2	+1·0	+2·0	+2·2	+2·0
Jodhpur . .	?	?	?	?	?	?	?	+0·1	0	—0·1	—0·5	—0·1
Allahabad .	—0·9	—0·6	0	—1·3	—1·2	+0·2	+1·0	+0·1	+1·2	+1·6	—0·9	+0·5
Calcutta (Alipore)	—0·3	+0·1	—0·1	—0·5	—0·1	+0·1	+0·4	+0·2	+0·2	—0·2	—2·2	—1·7
Bombay . .	+1·4	+2·5	+0·8	—1·0	—1·8	—1·2	+0·8	—0·3	—1·0	—0·6	—0·7	—1·1
Leh . . .	+3·1	+3·4	+2·9	+0·4	—2·3	—2·8	—2·0	—2·4	—0·1	—0·4	—2·1	+0·7
Aden . .	—0·4	—0·5	+0·1	+1·2	+1·1	—0·4	—0·8	—0·4	—0·3	—0·1	+1·9	?

Temperature of the ground.

Observations of the temperature of the ground were recorded during the year 1902 at five stations—Calcutta, Allahabad, Dehra, Lahore and Jaipur.

The following table, Table VII, gives the average data of past years for the above stations, and Table VIII, the variations from the normal for each month during 1902.

The thermometers used for the purpose are verified standard mercurial thermometers with attached scales of porcelain, the scale being engraved also on the tube. At Allahabad, with the exception of the thermometer at nine feet, they are read three times daily at equal intervals of eight hours; at Lahore, with the exception of the thermometer at six feet, and at Jaipur, with the exception of the thermometers at 10, 20 and 45·6 feet, they are read four times daily at intervals of six hours at Dehra once daily, *viz.*, at 3 P.M., and at Calcutta (Alipore) at 1-45 P.M.

The thermometers below the surface have their bulbs protected with pointed copper shoes which rest on the ground at the bottom of a wooden tube, inserted to the specified depth and projecting six inches above the surface, the upper ends being closed by a cap of metal or wood. Those at depths of three and six feet are attached to the lower end of a stout wooden bar of about half the diameter of the tube. Those at one foot have a brass ring attached to the top of the wooden frame by which they are lifted; and in all these the lower part of the frame around the bulb has been cut away, and the lower end fitted with the copper shoe above mentioned.

TABLE VII.—*Average monthly mean temperatures of the ground and of the air.*

		Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
			°	°	°	°	°	°	°	°	°	°	°	°	°
LAHORE.	Air	28—30	52·0	56·7	67·8	79·6	87·4	91·2	88·3	86·6	83·9	74·9	62·4	53·2	73·6
	Surface	17—18	50·4	57·4	74·5	90·2	101·3	104·6	101·2	99·2	95·6	78·8	61·2	51·3	80·5
	1 foot deep	17—18	57·4	60·4	70·5	81·5	89·9	94·4	94·8	94·0	92·2	82·9	71·1	61·3	79·2
	3 feet „	17—18	62·8	63·3	70·0	78·9	86·5	91·5	92·9	92·6	91·9	85·6	76·3	67·7	80·0
	6 „ „	17—18	71·4	69·3	70·7	75·0	80·2	84·8	87·5	88·5	88·9	87·0	82·2	76·3	80·2
JAIPUR.	Air	27—28	58·8	63·3	74·6	85·1	90·6	90·6	83·9	81·4	81·9	76·2	67·7	60·0	76·2
	Surface	21—22	63·1	70·0	83·8	95·2	101·7	100·7	92·1	89·9	91·7	85·6	72·6	63·8	84·2
	4 inches deep	16—17	62·0	69·6	82·0	90·7	95·9	97·9	91·2	91·4	88·2	84·9	73·5	63·0	82·5
	1 foot deep	21—22	61·6	66·8	77·6	87·6	94·3	95·5	98·1	86·8	87·6	83·4	73·0	63·7	80·6
	3 feet „	21—22	66·8	68·0	74·5	82·0	87·7	91·2	88·8	86·7	87·0	85·1	78·2	71·0	80·6
	10 „ „	20—22	74·5	72·9	74·1	77·8	81·8	85·3	86·2	86·0	85·8	85·4	82·7	78·5	80·9
	20 „ „	21	80·6	79·6	78·6	78·3	78·9	80·1	81·4	82·3	82·9	83·2	83·2	82·5	81·0
	45·6 „ „	15—16	81·8	81·9	81·9	81·9	81·9	81·9	81·8	81·8	81·7	81·7	81·7	81·8	81·8
DEHRA.	Air	30—31	54·8	57·4	66·9	77·1	82·6	84·0	79·4	78·0	76·9	70·6	62·4	56·1	70·5
	1·1 feet deep	21—22	57·4	59·1	68·0	78·8	86·5	88·4	84·4	82·5	81·5	76·4	67·7	60·3	74·3
	3·2 „ „	21—22	62·0	61·4	67·1	75·8	82·5	85·1	83·6	82·2	81·8	78·4	72·1	65·9	74·8
	6·4 „ „	20—22	67·7	64·9	67·3	71·8	76·9	80·5	81·6	81·6	81·3	80·2	76·1	71·6	75·1
	12·8 „ „	20—22	74·0	72·0	71·0	71·5	73·3	75·4	77·4	79·2	79·8	79·5	78·3	76·3	75·6
	25·6 „ „	19—21	76·4	75·7	75·0	74·4	74·1	74·1	74·6	76·0	76·9	77·1	77·1	76·9	75·7
ALLAHABAD.	Air	29—31	60·6	65·3	77·8	87·7	92·4	90·6	84·7	83·2	83·2	78·6	69·0	60·7	77·8
	Surface	22—23	59·6	65·6	81·0	92·8	102·1	99·4	88·9	87·3	87·6	81·2	67·9	59·0	81·0
	1 foot deep	22—23	61·1	65·6	76·0	86·4	94·2	94·9	87·9	86·0	85·9	81·1	71·0	62·9	79·0
	3 feet „	22—23	66·7	68·1	74·2	82·5	89·3	92·2	88·3	86·3	86·0	83·5	76·8	70·0	80·3
	9 „ „	15	78·6	77·0	76·8	78·3	81·1	83·6	84·8	84·7	84·7	84·6	83·5	81·3	81·6
CALCUTTA (ALIPORE).	Air	16	76·9	81·6	90·4	95·4	93·5	91·3	88·0	87·1	87·4	86·6	81·2	76·1	86·3
	Surface	23	76·2	85·0	102·1	111·5	106·9	97·8	93·8	93·2	94·1	93·0	85·7	77·0	93·0
	1 foot deep	22—23	67·5	71·2	78·9	85·9	88·1	87·1	85·9	85·5	85·4	83·3	76·4	69·0	80·4
	3 feet „	22—23	72·1	73·8	78·9	84·7	87·4	87·3	86·4	86·1	86·0	85·1	80·9	74·9	82·0
	6 „ „	17—19	77·2	76·4	77·8	81·0	83·8	85·1	85·1	85·1	85·2	85·0	83·6	80·4	82·1

The mean results for Calcutta in Table VII (above) show that the surface of the ground is, on the average of the whole year, 6°·7 hotter than the air at about 2 P.M. They also indicate that the temperature increases 1°·7 in passing from one foot to a depth of six feet.

At Allahabad the ground surface is on the average 3°·2 hotter than the air. The average temperature decreases 2°·0 down to a depth of one foot, and then increases 1°·3 to a depth of three feet, and thence 1°·3 to a depth of 9 feet.

At Jaipur (where the soil on which the instrument is placed is almost pure sand) the surface is as much as 8°·0 hotter than the air on the average of the whole year. In May the difference reaches the large amount of 11°·1. The mean temperature decreases to a depth of one foot, is constant between 1 and 3 feet, and then slowly increases to a depth of 45·6 feet.

At Lahore the surface soil, which is similar in character to that of Jaipur, is on the average 6°·9 hotter than the air. The temperature decreases through a depth of one foot, and thence increases slowly to a depth of six feet.

TABLE VIII.—*Comparison of the mean monthly temperatures of the ground in 1902, with the averages of Table VII.*

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
LAHORE.	Air	+2·6	+5·3	+3·9	+2·0	+4·1	+0·8	+2·0	+2·8	+1·5	+3·0	+2·9	+0·8	+2·6
	Surface	−4·0	−0·8	0	−2·3	−0·4	−0·6	+2·0	+1·3	−2·1	+0·6	−0·6	−4·1	−0·9
	1 foot deep	−0·6	+1·4	+1·7	−0·6	+0·2	−0·1	+1·1	+1·2	−0·8	+1·5	+1·1	−1·1	+0·4
	3 feet „	0	+1·1	+1·7	−0·2	−0·1	+0·1	+0·5	+1·1	−0·5	+0·8	+1·0	−0·2	+0·4
	6 „ „	0	+0·3	+1·2	+0·4	−0·1	+0·3	+0·2	+0·5	+0·4	+0·4	+0·5	−0·1	+0·3
JAIPUR.	Air	+2·9	+4·9	+5·1	+2·6	+1·9	+1·1	+1·8	+3·4	+0·3	+1·6	+1·2	+0·6	+2·3
	Surface	−1·3	+0·3	+3·7	+1·9	+1·1	+2·2	+2·7	+6·0	−0·9	+1·0	+0·3	−2·5	+1·3
	4 inches deep	+0·8	+1·5	+2·3	+0·1	−1·0	+2·0	+2·9	+5·4	+0·2	+0·4	+1·4	+0·9	+1·4
	1 foot „	+2·0	+1·8	+2·5	+0·7	−0·4	+1·1	+2·1	+4·2	+0·4	+1·5	+2·2	+1·8	+1·7
	3 feet „	+1·3	+1·9	+2·7	+1·3	+0·7	+0·9	+1·7	+3·5	+1·0	+0·5	+0·7	+0·2	+1·4
	10 „ „	+3·0	+2·6	+1·9	+0·6	−0·4	−0·8	0	+0·5	+1·1	+0·4	+1·5	+2·0	+1·0
	20 „ „	+3·1	+2·9	+2·8	+2·7	+2·2	+1·9	+1·6	+1·7	+1·6	+1·8	+1·9	+2·0	+2·2
	45·6 „ „	+0·8	+0·8	+0·8	+0·8	+0·8	+0·7	+0·8	+0·8	+0·8	+0·8	+0·9	+0·9	+0·8
DEHRA.	Air	+2·7	+3·3	+4·8	+3·7	+1·5	+1·1	+6·8	+4·5	+1·4	+2·4	+2·2	+0·7	+2·9
	1·1 feet deep	+2·2	+5·3	+5·9	+1·5	+2·4	+2·1	+0·5	+0·7	+0·3	−1·1	+0·2	−0·6	+1·6
	3·2 „ „	+2·0	+4·6	+5·3	+3·0	+1·8	+1·7	+0·7	+0·5	+0·4	−0·4	+0·1	+0·2	+1·7
	6·4 „ „	+1·5	+3·7	+3·4	+2·6	+1·2	+1·5	+0·6	+0·4	+0·2	−0·2	+0·2	+0·8	+1·3
	12·8 „ „	+0·9	+1·2	+1·6	+1·9	+1·6	+1·6	+1·1	+0·5	+0·1	+0·1	+0·1	+0·3	+0·9
	25·6 „ „	+0·5	+0·6	+0·7	+0·7	+0·8	+0·9	+0·9	+0·3	0	+0·3	+0·3	+0·4	+0·5
ALLAHABAD.	Air	+1·1	+0·9	+2·7	+1·3	+1·4	+3·0	−0·2	+0·8	−0·8	−0·7	−1·9	−1·9	+0·5
	Surface	+0·5	+1·7	+4·9	+3·9	+3·0	+6·0	+1·8	+5·3	+1·5	+1·3	−0·2	−1·5	+2·4
	1 foot deep	+1·4	+1·7	+4·2	+3·8	+2·2	+3·8	+1·1	+1·5	−0·2	+2·1	+0·2	−1·0	+1·7
	3 feet „	+1·1	+1·1	+3·2	+3·0	+1·9	+2·1	+2·2	+0·7	+0·6	+1·2	+0·8	0	+1·5
	9 „ „	+0·5	+0·5	+0·9	+1·5	+1·4	+1·3	+1·5	+1·1	+1·0	+0·9	+0·8	+0·4	+1·0
CALCUTTA (ALIPORE).	Air	+1·7	+1·2	+2·0	−2·4	−1·3	+0·7	+0·2	+1·5	+1·3	+0·8	0	+0·6	+0·5
	Surface	+2·3	−1·4	−7·3	−12·9	−9·6	−1·9	−3·0	0	−1·1	−1·5	+0·8	+4·1	−2·6
	1 foot deep	+2·0	+1·7	+1·8	−2·4	−3·0	−0·9	−1·4	−0·1	+0·4	+0·4	+0·6	+1·9	+0·1
	3 feet „	+1·4	+1·1	+1·2	−1·6	−2·9	−1·9	−1·4	−0·9	−0·2	+0·1	+0·6	+1·4	−0·3
	6 „ „	+0·9	+1·4	+1·6	+0·5	−1·1	−1·8	−1·3	−1·3	−0·9	−0·4	+0·1	+0·6	−0·1

Temperature.

The methods of exposing the thermometers at observatories in India and of deducing the daily and monthly means from the observed readings of the instruments are described in pages 18-19 of the Annual Report for 1890.

The variations of the mean temperature of each month from the normal given in Table II of the monthly reviews are deduced by a comparison of the actual monthly means with the normal monthly means obtained by the same methods, given in Table XII of average monthly temperatures of 87 stations in India and Ceylon, etc., in pages 19 to 22 of the Annual Report for the year 1890. Average data for 134 stations will also be found in pages 39 to 42 of the Annual Report for the year 1887.

Average or normal monthly temperatures of 82 second class stations, based on the whole of the data up to December 1896, were given in Table I of the Annual Summary for 1896.

The variations obtained by a comparison of these normal means with the actual monthly means in Table II of the monthly weather reviews for the year are given in Table XII.

The mean variations given in Table XIII of the Geographical Summary are derived from the variation data of Table II of the monthly weather reviews of the year 1902.

In Table I, published in each monthly review, the mean temperature of the day is calculated, as in the Daily Weather Report, by the formula, daily mean $= \frac{\text{Maximum} + \text{Minimum}}{2}$. It differs from the true daily mean by amounts varying slightly with the season. The variations of the daily or monthly actual means obtained by this method from normal daily or monthly means similarly calculated, usually differ very little from those obtained by the more laborious computation of true daily means and the comparison of these with normal true daily means. In Table I of the monthly weather reviews of the year 1902 the variations of the monthly mean maxima and minima temperatures from the normal, as well as the variations of the monthly mean temperatures, *i.e.*, $\frac{\text{Maximum} + \text{Minimum}}{2}$ are given.

Normal monthly mean maxima and minima temperatures of 94 stations, calculated from the observations of the eleven years' period, 1878—1888, were given in the Annual Summary for 1891. The data for the years 1889—1893 were given in the 1894 Annual Summary, Tables I and II.

The additional data for the years 1894—1899 have been utilized to obtain what are probably slightly more accurate means than those published in the 1894 Annual Summary. The re-calculated means are given in Tables IX, X and XI.

Tables XIII and XIV (*a*), XIV (*b*) and XIV (*c*) give summaries of the temperature variation data for each month of the year 1902 and for the year. In the first table (Table XIII) the same division has been adopted as that employed in the Annual Reports from 1881 to 1890. This enables an exact comparison to be made of the temperature data of the year 1902 with those of previous years given in the Annual Reports. In the second set of tables [Table XIV (*a*), XIV (*b*) and XIV (*c*)] the variation data are given for the eleven meteorological provinces into which the empire is divided for the purpose chiefly of comparing meteorological and health statistics, and in the last table (Table XV) the data are given for 55 of the 57 smaller divisions or areas into which India is sub-divided with a view to the comparison of meteorological and crop statistics—

TABLE IX.—*Average monthly and annual means of maximum temperatures of 171 stations in India, etc.*

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Mergui	88·1	89·6	91·2	91·9	89·1	85·7	84·5	84·2	84·4	87·2	87·4	87·3	87·6
Tavoy	89·5	91·1	93·3	94·0	88·4	84·8	83·3	82·8	84·0	88·0	87·9	87·7	87·9
Moulmein	88·4	91·5	94·1	94·6	89·3	84·6	83·0	83·0	84·8	88·4	88·4	87·2	88·1
Rangoon	89·1	92·8	96·6	98·6	91·9	86·5	85·3	85·1	85·7	87·7	87·6	87·3	89·5
Bassein	85·7	90·0	94·4	96·2	91·5	86·3	84·7	84·5	85·5	87·4	86·2	84·4	88·1
Diamond Island	84·0	84·2	85·6	88·7	88·6	85·6	84·3	84·3	84·8	86·5	85·5	83·9	85·5
Akyab	81·4	84·8	89·1	91·8	90·6	86·0	84·7	84·4	86·6	87·8	85·1	81·7	86·2
Toungoo	85·3	90·9	97·8	100·4	95·7	89·1	86·7	86·7	89·0	90·3	87·3	84·0	90·3
Thayetmyo	85·9	92·6	99·8	103·0	98·4	91·4	88·9	88·9	89·9	90·4	88·0	84·6	91·8
Taunggyi	73·3	76·0	82·9	85·7	79·9	77·2	75·8	75·8	77·2	77·5	73·7	70·6	77·1
Lashio	75·1	79·0	86·2	90·9	88·3	85·5	83·6	83·1	84·8	83·5	77·1	73·7	82·6
Bhamo	77·2	82·2	89·0	93·9	93·7	90·5	87·8	88·1	90·1	88·5	81·8	76·3	82·6

TABLE IX.—*Average monthly and annual means of maximum temperatures of 171 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Kindat	76·2	81·9	90·2	96·8	95·1	90·0	88·6	87·6	88·2	86·9	81·4	75·5	86·5
Minbu	85·7	91·6	99·3	103·4	97·5	93·0	91·3	90·6	90·9	91·3	88·6	84·0	92 3
Yamethin	87·2	92·5	99·1	102·3	95·3	91·9	90·0	89·8	91·7	92·5	88 8	85 0	92·2
Mandalay	84·1	89·9	97·7	102·3	99·0	95·0	94·2	93·3	92·8	91·8	86 7	82·3	92·4
Chittagong	78·3	82·3	86·7	88·9	88·6	86·6	85·7	85·5	86·8	86·5	83·0	78·1	84·8
Silchar	77·8	80·7	86·0	88·5	88·7	89·4	90·2	89·5	89·8	88·7	84·8	79·7	86·2
Barisal	77·6	81·7	89·3	92·2	91·9	88·7	87·3	86·8	88·5	87 6	82·8	77·6	86·0
Narayanganj	77·9	82·2	90·0	93·2	91·3	89·0	88·3	87·5	88·5	87·9	83·5	78·0	864
Mymensingh	75·0	78·4	86·9	90·8	88·6	87·2	87·1	86·9	87·1	86·2	81·5	76·2	84·3
Saugor Island	76·6	81·2	87·2	90·8	91·8	90·4	87 8	87·2	88·2	86·9	81·7	76·3	85·5
Calcutta	77·1	82·0	90·8	95·6	94·5	91·1	88·0	87·1	87·7	86·7	81·4	76·5	86·5
Jessore	77·9	83·1	92·4	97·2	94·8	91·5	89·2	88·6	89 4	88·4	83·1	77·6	87·8
Berhampore	76·8	82·0	92·7	100·0	96·5	92·4	89·4	88·6	88·9	87·5	81·9	76·5	87·8
Bogra	76·1	80·2	90·2	96·2	92·5	89·8	89·1	88·3	88·4	87·2	82·0	76·9	86·4
Sibsagar	70·1	73·1	79·1	82·5	85·9	89·3	90·0	89·2	88·1	84·8	78·3	71·5	81·8
Dhubri	74·0	78·0	86·5	88·7	85·9	85·7	85·9	86·0	85·1	84·5	79·8	74·3	82·9
Burdwan	78·8	83·8	93·7	100·6	98·4	93·8	90·2	89·2	89·7	88·7	83·2	78·2	89·0
Patna	73·0	78·2	90·9	100·6	100·2	96·4	90·1	89·1	89·9	88·2	81·7	74·2	87·7
Gaya	75·9	81·3	93·3	103·4	104·9	99·6	91·4	90 0	91·0	89·6	83·2	76·2	90·0
Benares	74·3	80·4	92·8	103·1	105·5	100·1	91 2	89·5	91·0	89·9	82·1	75·0	89·6
Darjeeling	46·8	47·9	56·5	62·2	63·8	65·2	66·0	65·5	64·1	60·5	54·2	48·7	58·5
Jalpaiguri	72·0	76·5	84 8	89·5	88·3	87·9	88·2	88·1	87·2	85·8	81 3	75·2	83·7
Dinajpur	75·7	79·4	89·1	94·6	91·7	89·5	89·1	88·8	88·2	87·4	82·4	76·9	86·1
Purnea	74·7	79·1	89·9	97·0	94·8	92·1	90·0	89·2	88·9	87·4	81·9	75·8	86·7
Darbhanga	72·7	76·8	87·9	96·1	95·6	92·4	89·5	88·5	88·3	86·7	81·3	74·5	85 9
Gorakhpur	72·9	78·0	90·5	100·4	101·0	96·9	91·1	89·8	90·5	88·7	81·6	74 2	88·0
Lahraich	72·4	76·7	89·0	99·6	103·0	97·4	91·3	89·9	91·0	90·1	82 8	75·0	88·2
Bareilly	70·6	75·0	87·5	99·3	103·2	99·7	91·6	89·9	90·5	89·5	81·1	72·8	87·6
Roorkee	69·6	73·1	85·4	98·2	102·8	100·4	92·1	90·7	91·3	89·3	80·5	72.4	87·2
Umballa	67·8	71·5	83·9	97·7	105·2	101·4	93·3	92 8	93·7	93·2	82·3	72·1	87 9
Ludhiana	67·2	71·2	84·4	97·4	104·4	104·8	97·0	95·0	94·9	91·9	80·6	71·0	88·3
Sialkot	66·2	69·6	81·7	95·2	103·1	105·5	97·6	94·7	95·7	92·3	80·9	70·1	87·7
Rawalpindi	63·1	64·8	76·5	8.·4	98·1	102·8	97·3	93·9	93·6	88·2	77·2	67·6	84·3
Ranikhet	54·5	55·6	65·3	74·8	78·2	77·9	73·9	72·4	72·6	69·2	62·5	57 5	67·9
Dehra Dun	66·2	69·2	79·7	90·6	95·0	93·0	85·5	8,·0	84·3	82·3	75·0	68·7	81·1
Mussooree	48·9	50·1	60·6	72·4	78·0	76·7	71·0	69·1	68·6	64·9	57·6	51·4	64·1

TABLE IX.—*Average monthly and annual means of maximum temperatures of 171 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Chakrata	50·6	51·2	61·7	70·3	74·3	74·3	69·9	68·8	68·7	66·2	60·0	54·9	64·2
Simla	44·5	45·9	56·4	65·2	73·1	74·4	69·2	67·1	66·1	62·4	56·1	49·4	60·8
Murree	47·2	48·0	58·3	68·8	76·9	81·7	77·0	74·4	73·8	69·3	60·9	52·8	65·8
Srinagar	39·0	42·3	55·4	68·2	76·9	83·1	84·9	83·9	79·4	69·7	60·3	47·8	65·9
Leh	29·8	31·4	43·1	57·1	64·0	73·1	78·2	77·4	70·3	58·6	47·6	34·7	55·4
Kailang	34·3	33·5	41·4	53·0	62·0	71·8	73·9	73·7	69·2	60·4	51·6	40·0	55·4
Allahabad	74·4	80·2	93·0	103·8	107·0	101·7	91·6	89·8	91·5	90·5	83·1	75·7	90·2
Lucknow	74·0	78·8	91·5	102·4	105·0	100·5	92·2	90·3	92·1	91·2	83·3	75·7	89·8
Cawnpore	73·9	78·8	90·8	102·2	106·2	101·1	92·5	89·9	92·4	91·5	84·1	76·3	90·0
Mainpuri	71·7	76·8	89·7	102·5	107·5	101·2	92·7	90·8	93·1	92·9	84·2	75·1	89·9
Agra	73·5	78·6	91·1	102·6	107·2	104·3	93·3	91·1	93·1	93·3	84·4	76·1	90·7
Meerut	70·4	74·5	86·6	98·5	103·0	100·6	92·8	90·9	91·8	90·5	81·3	72·9	87·8
Delhi	70·7	74·8	87·4	99·7	104·7	103·2	94·0	91·8	93·0	92·1	82·9	73·7	89·0
Lahore	69·0	72·7	85·1	98·2	105·7	107·4	100·6	98·2	98·9	95·1	83·6	73·2	90·6
Cherat	49·2	52·1	61·5	75·5	89·6	94·3	88·6	86·9	85·8	78·6	67·2	55·5	73·7
Peshawar	63·5	66·1	76·1	86·9	98·6	105·9	102·9	99·2	96·0	88·4	77·1	67·5	85·7
Khushab	67·6	68·7	80·6	95·3	104·9	107·1	102·6	100·2	99·6	93·8	82·8	71·7	89·6
Dera Ismail Khan	69·1	71·9	83·5	94·5	104·2	108·0	103·4	101·1	100·5	94·0	82·1	72·5	90·4
Montgomery	68·5	72·8	85·7	100·1	108·3	110·0	104·7	102·0	101·7	96·6	84·2	72·9	92·3
Mooltan	70·2	73·7	86·5	99·0	106·6	107·8	103·8	100·7	100·3	95·5	84·4	73·9	91·9
Sirsa	71·0	75·2	88·6	101·1	107·2	106·7	100·5	98·4	98·9	96·1	84·9	74·9	92·0
Bikaner	71·8	75·9	89·3	101·3	107·1	106·5	100·4	97·1	98·5	95·9	84·7	75·3	92·0
Pachpadra	78·4	83·2	94·6	106·3	107·8	105·7	97·7	94·8	97·2	98·7	90·7	81·5	94·7
Kurrachee	76·9	79·7	86·1	90·6	92·9	94·0	90·6	88·2	88·8	91·6	87·4	80·3	87·3
Hyderabad Sind	76·8	80·8	93·1	102·7	106·9	104·2	98·9	95·5	97·5	98·0	88·0	79·1	93·5
Jacobabad	73·6	77·9	91·1	103·1	111·6	112·7	107·8	103·8	103·5	98·6	86·8	76·7	95·6
Quetta	51·3	53·1	64·5	74·2	83·5	90·6	92·7	90·5	85·4	74·6	64·8	56·6	73·5
Chaman	53·4	57·0	67·3	81·6	94·3	100·2	101·5	98·0	91·6	78·7	69·4	59·0	79·3
Colombo	87·5	88·3	89·4	88·9	88·0	85·7	85·4	85·6	86·0	85·7	86·4	86·9	87·0
Trivandrum	83·4	85·0	87·1	87·5	86·3	82·9	82·1	82·3	82·9	82·7	82·6	83·0	84·0
Cochin	89·1	89·9	91·2	91·5	89·6	85·0	83·5	83·7	84·6	86·2	87·5	88·5	87·5
Calicut	87·6	88·7	90·3	91·3	90·4	84·6	82·5	82·8	84·3	86·2	87·4	87·6	87·0
Mangalore	88·5	88·1	89·4	91·1	90·3	85·0	83·0	82·8	83·3	85·7	88·3	89·5	87·1
Mercara	77·7	81·2	84·6	83·9	80·3	72·9	68·9	69·7	72·2	75·8	75·9	75·2	76·5
Karwar	86·9	86·3	87·8	90·0	89·8	85·3	83·0	82·5	82·7	85·4	87·4	87·7	86·2
Goa	86·9	86·6	87·3	89·2	90·0	85·2	82·4	81·9	82·6	85·3	87·4	87·4	86·0

TABLE IX—*Average monthly and annual means of maximum temperatures of 171 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Mormugao	85·8	84·9	86·9	90·1	90·0	87·0	83·7	83·4	83·5	86·0	87·0	86·3	86·2
Ratnagiri	87·7	86·4	87·8	90·1	91·1	86·6	83·9	83·7	84·2	88·2	90·5	89·5	87·5
Bombay	82·6	82·6	85·7	88·5	90·7	87·6	84·4	84·0	84·5	87·5	86·9	84·5	85·8
Surat	86·9	89·7	96·6	100·1	98·2	93·7	87·3	87·0	88·5	93·0	90·6	87·4	91·6
Bhavnagar Para	82·5	85·9	93·7	100·8	102·9	98·3	93·4	92·8	93·0	96·1	89·9	85·0	92·9
Veraval	81·5	81·5	86·3	87·7	86·7	86·4	83·7	82·7	83·8	89·3	88·3	84·1	85·2
Rajkot	84·0	87·2	95·6	102·8	105·4	99·8	90·6	88·9	91·4	95·3	90·4	85·4	93·1
Bhuj	80·4	84·3	93·9	101·0	101·3	97·6	90·0	88·7	92·1	96·1	89·2	82·2	91·4
Ahmedabad	84·0	87·5	97·0	105·4	107·1	99·7	91·4	90·1	92·1	96·7	91·4	85·9	94·0
Deesa	83·1	86·5	96·1	104·2	106·7	101·9	91·7	88·9	92·8	96·9	91·5	85·4	93·8
Tinnevelly	87·7	92·0	96·5	98·0	100·4	97·1	95·8	96·7	97·8	93·7	88·7	86·2	94·2
Madura	87·5	92·0	96·7	99·3	100·1	98·2	97·2	96·6	95·3	91·3	87·3	86·0	94·0
Trichinopoly	87·4	92·3	97·9	101·1	101·8	99·0	97·5	96·6	95·5	91·0	87·1	85·2	94·4
Coimbatore	86·8	92·0	96·3	97·4	95·0	89·9	88·0	88·7	89·6	88·3	86·2	85·1	90·3
Salem	88·3	93·6	98·6	100·7	99·2	95·2	93·1	92·2	91·3	89·6	87·3	86·4	93·0
Wellington	67·6	70·8	74·1	75·9	76·1	72·2	71·1	71·4	71·3	69·1	67·3	66·2	71·1
Mysore	84·0	88·8	93·5	94·0	92·1	84·6	82·7	84·0	84·5	84·1	82·5	81·6	86·4
Bangalore	80·2	85·8	90·7	93·2	91·3	84·7	81·9	81·8	81·9	81·4	79·3	78·0	84·2
Hassan	81·5	85·4	91·0	91·1	87·6	79·5	76·8	78·3	79·8	81·3	79·8	79·4	82·7
Chitaldroog	83·8	89·3	94·4	95·8	93·7	85·8	81·9	82·1	83·5	84·6	82·1	81·3	86·5
Cuddapah	88·4	95·1	101·7	105·2	106·3	100·3	95·3	93·7	92·5	91·9	88·5	86·8	95·5
Kurnool	88·7	94·5	100·9	103·6	104·8	96·7	91·4	89·8	89·2	90·9	88·1	86·9	93·8
Bellary	87·6	94·2	100·3	103·4	102·4	94·5	90·9	90·8	90·6	89·7	86·7	85·6	93·1
Raichur	86·7	92·8	98·8	102·1	103·4	94·7	90·1	88·5	87·7	89·0	86·1	84·9	92·1
Hyderabad (Deccan)	84·5	91·3	97·9	102·0	103·8	94·3	87·1	86·1	86·7	87·6	83·8	82·4	90·6
Gulbarga	86·7	92·6	99·2	103·2	104·8	94·7	89·8	88·3	87·5	90·0	87·0	85·0	92·4
Belgaum	83·5	88·6	93·9	96·0	93·0	80·8	75·7	76·1	78·9	83·1	82·1	81·6	84·4
Bijapur	85·2	90·4	96·4	99·8	100·3	90·5	86·2	86·1	85·9	88·2	85·6	84·0	89·9
Sholapur	87·7	93·7	100·4	104·8	104·8	94·8	89·5	88·8	88·4	89·9	87·5	85·5	93·0
Poona	85·9	91·3	97·7	101·6	99·2	89·2	82·3	81·9	84·4	88·5	86·3	84·3	89·4
Ahmednagar	84·0	88·1	93·8	98·9	99·4	90·4	85·2	84·8	85·2	88·1	85·3	83·0	88·9
Malegaon	85·6	89·9	97·3	103·2	104·0	94·9	87·4	86·6	87·9	90·6	87·1	84·2	91·6
Buldana	81·3	86·2	93·7	100·0	101·1	91·8	83·9	82·1	83·1	85·5	82·0	79·4	87·5
Chikalda	73·2	77·8	85·8	92·2	93·8	83·8	74·2	72·7	74·9	77·8	74·7	72·2	79·4
Akola	85·2	90·7	99·2	106·0	107·7	98·2	89·0	87·2	89·1	91·3	87·0	83·6	92·9
Amraoti	84·6	90·1	98·1	105·0	107·7	97·2	87·3	86·1	88·4	90·6	86·3	82·7	92·0

TABLE IX.—*Average monthly and annual means of maximum temperatures of 171 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Khandwa	83·9	88·8	97·6	104·8	106·5	97·6	87·6	85·5	88·1	91·1	86·8	83·0	91·8
Nagpur	83·5	89·3	98·3	105·5	109·3	98·3	87·8	87·0	89·3	90·1	85·0	81·3	92·1
Indore	79·4	83·3	92·5	100·6	102·8	94·4	84·5	82·9	85·4	87·9	83·2	79·3	88·0
Neemuch	77·6	81·2	91·4	100·9	104·0	98·3	87·4	85·0	87·9	90·4	84·5	78·4	88·9
Mount Abu	66·6	68·8	77·7	85·7	88·2	83·3	74·6	72·0	75·3	78·8	73·5	68·6	76·1
Aimer	74·1	77·8	89·1	99·3	103·8	100·5	91·3	88·2	90·8	92·0	83·9	76·3	88·9
Sambhar	73·6	77·4	88·7	100·4	105·1	102·3	94·3	91·3	93·7	93·3	84·5	76·0	90·1
Jaipur	74·6	78·6	89·7	101·7	106·6	102·5	93·5	91·6	94·2	94·3	85·8	77·7	90·9
Saugor	76·9	81·3	92·1	101·5	105·1	97·8	85·2	83·6	86·6	87·6	82·0	76·7	88·0
Sutna	75·1	79·6	91·3	101·7	105·5	98·7	87·4	85·9	88·0	87·9	81·1	75·1	88·1
Nowgong	75·1	80·3	92·4	103·4	107·4	101·6	89·9	87·9	90·4	90·3	82·3	75·2	89·7
Jhansi	76·4	81·2	93·1	104·2	108·3	102·8	91·2	88·9	91·7	92·9	85·3	78·4	91·2
Hoshangabad . . .	80·3	85·4	95·7	104·8	107·6	98·1	86·7	85·0	88·1	89·6	84·3	79·3	90·4
Pachmarhi	71·3	75·5	84·4	92·5	95·1	85·9	75·8	74·7	77·2	78·1	73·3	70·3	79·5
Jubbulpore	77·6	82·4	92·8	102·0	105·6	96·9	85·9	84·7	87·4	87·4	81·9	76·9	88·5
Seoni	79·2	83·8	93·2	101·1	103·9	94·2	83·8	83·1	85·6	86·6	81·3	77·7	87·8
Chanda	85·4	91·8	99·7	106·5	109·5	98·5	88·6	87·6	89·1	90·1	85·2	82·5	92·9
Raipur	81·6	87·4	96·5	104·3	107·4	97·2	86·5	85·9	88·2	88·3	83·2	79·2	90·5
Sambalpur . . .	82·2	88·0	96·7	104·3	106·9	97·3	87·5	87·2	89·3	88·8	83·8	79·8	91·0
Chaibassa	81·1	85·2	94·8	103·6	105·1	96·2	89·6	88·6	89·9	88·7	83·5	79·7	90·5
Ranchi	74·4	78·2	87·6	97·1	99·6	91·1	84·0	83·3	84·4	83·0	77·8	73·7	84·5
Hazaribagh . . .	73·1	78·0	88·6	98·1	99·2	92·5	84·6	83·7	84·7	83·3	77·3	72·2	84·6
Balasore	81·3	85·4	92·7	97·5	97·6	91·9	88·5	87·9	88·9	88·0	83·6	80·0	88·6
False Point . . .	79·1	82·8	87·3	89·9	91·0	90·3	87·6	87·0	87·9	87·4	82·4	77·9	85·9
Cuttack	84·5	90·1	97·0	102·0	101·6	95·5	89·8	89·1	90·2	89·7	85·1	82·1	91·4
Gopalpur	80·3	83·5	86·6	87·7	89·8	89·2	87·4	87·4	88·3	87·6	83·4	80·3	86·0
Waltair	80·7	84·5	87·1	89·9	92·4	90·9	89·5	89·2	89·1	88·7	84·4	81·2	87·3
Cocanada	81·0	85·8	91·7	95·6	100·7	95·2	91·7	89·7	89·2	87·9	83·5	80·7	89·4
Masulipatam . . .	83·5	86·9	91·4	94·9	100·1	97·7	92·7	91·3	90·7	88·9	85·1	83·0	90·5
Nellore	86·0	90·6	96·2	100·9	106·0	101·8	97·3	95·6	94·6	91·2	86·7	84·8	94·3
Madras	84·7	86·9	90·0	93·1	98·5	98·5	95·7	93·8	93·0	89·0	85·1	83·3	91·0
Cuddalore	83·3	85·4	89·3	92·8	98·8	98·2	95·9	93·7	91·9	88·1	84·8	83·2	90·5
Negapatam	81·8	84·4	88·7	92·5	97·3	97·1	95·9	93·7	92·5	88·4	84·1	81·5	89·8
Pamban	81·9	84·9	88·8	90·9	91·2	89·7	89·1	89·0	89·0	87·1	84·3	81·6	87·3
Trincomalee . . .	83·3	85·0	88·0	91·0	93·0	91·6	91·6	92·1	91·2	88·4	85·3	82·5	88·6
Port Blair	86·4	88·1	91·1	92·5	89·0	86·0	85·4	85·3	85·1	86·9	86·8	85·9	87·4

TABLE IX.—*Average monthly and annual means of maximum temperatures of 171 stations in India, etc.*—concld.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Minicoy	85·8	86·4	88·1	89·7	88·6	85·6	85·2	85·3	85·3	85·6	86·2	86·0	86·3
Amini Devi	84·2	85·3	88·0	90·4	90·1	86·1	85·0	85·3	85·0	85·2	85·0	84·9	86·2
Perim	82·7	83·5	85·3	88·7	92·5	95·2	96·4	96·1	94·8	91·1	86·9	84·3	89·8
Aden	80·6	81·7	84·4	89·1	93·3	94·7	93·1	91·5	93·6	90·2	84·9	81·8	88·2
Muscat	72·2	72·8	76·6	85·8	91·5	93·8	91·4	87·9	87·2	85·8	80·0	75·4	83·4
Jask	73·8	74·9	78·7	87·2	92·4	95·8	95·8	94·5	93·5	90·7	83·2	78·0	86·5
Bushire	64·1	65·7	72·3	81·6	89·1	91·9	95·3	97·0	94·3	87·8	78·1	69·2	82·2
Ispahan	46·5	54·3	61·0	73·1	84·1	94·4	98·4	95·5	90·4	77·4	61·9	52·3	74·1
Teheran	42·3	52·1	57·2	71·4	82·9	94·4	98·4	96·7	90·7	77·5	61·4	51·3	73·0
Kalat	52·4	56·2	64·6	76·1	85·4	92·2	93·1	90·4	85·2	73·7	66·9	58·1	74·5
Kabul	45·0	48·5	57·1	71·4	82·6	89·3	92·4	92·4	87·3	75·2	67·6	54·9	72·0
Gilgit	45·2	51·3	61·7	72·7	85·4	94·6	96·6	94·2	86·7	73·9	62·0	49·2	72·8
Kashgar	32·4	45·1	56·2	71·6	80·8	89·9	91·5	88·1	81·6	68·7	52·0	36·6	66·2
Baghdad	60·1	64·7	72·3	81·6	91·8	101·8	107·3	108·4	101·9	92·8	74·7	63·4	85·1
Zanzibar	86·1	87·0	86·3	84·7	82·4	81·5	80·2	80·8	82·0	83·2	83·7	85·8	83·6

TABLE X.—*Average monthly and annual means of minimum temperatures of 170 stations in India, etc.*

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Mergui	66·9	69·1	71·9	73·7	73·8	73·1	72·5	72·6	72·2	72·1	69·7	66·7	71·2
Tavoy	64·2	66·8	70·2	74·2	75·2	74·7	74·1	73·8	73·7	73·3	68·5	64·8	71·1
Moulmein	65·2	67·7	72·7	76·4	75·8	74·8	74·2	74·1	74·5	74·7	71·1	66·9	72·3
Rangoon	64·2	65·9	71·1	76·2	77·3	76·5	75·8	75·7	75·9	75·6	72·3	67·3	72·8
Bassein	61·7	64·9	70·5	75·5	77·0	76·3	75·8	75·7	75·8	75·2	71·5	65·1	72·1
Diamond Island . . .	71·0	72·3	75·0	78·3	78·8	76·4	75·6	75·6	75·8	76·7	75·2	72·2	75·2
Akyab	59·3	61·5	68·9	76·0	78·2	78·1	77·5	77·3	78·0	76·7	71·4	64·0	72·2
Toungoo	57·6	61·1	68·5	76·0	76·7	75·5	75·1	75·0	75·6	74·8	70·0	62·1	70·7
Thayetmyo	53·5	56·9	66·5	75·8	77·7	76·8	76·3	76·1	76·0	74·1	67·3	58·3	69·6
Taunggyi	42·2	46·5	53·5	60·4	63·1	64·2	63·8	63·7	62·9	59·0	51·5	46·5	56·4
Lashio	45·0	48·7	55·7	62·9	66·8	69·3	69·3	69·1	67·8	63·5	54·3	47·9	60·0
Bhamo	48·5	53·1	60·1	67·6	72·7	74·9	75·1	75·4	74·5	69·6	59·2	50·7	65·1
Kindat	52·4	54·1	59·8	67·4	74·3	76·3	76·7	76·3	75·3	72·0	64·3	56·1	67·1
Minbu	56·1	61·2	69·3	76·9	77·7	77·8	77·2	77·0	76·9	75·0	68·2	60·0	71·1

TABLE X.—*Average monthly and annual means of minimum temperatures of 170 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Yamethin	54·6	60·6	68·1	76·1	76·2	75·3	74·6	74·3	74·8	73·8	67·0	57·2	69·4
Mandalay	56·0	60·1	67·9	77·8	79·0	78·5	78·4	77·6	76·9	74·8	67·2	59·3	71·1
Chittagong	55·3	59·0	67·6	73·7	75·4	76·6	76·6	76·1	76·3	73·4	65·8	58·0	69·5
Silchar	52·3	55·6	63·2	69·2	72·5	76·2	77·2	76·8	76·4	72·3	63·6	55·0	67·5
Barisal	54·4	59·7	69·2	75·4	77·4	78·2	78·6	78·2	78·3	74·6	65·0	56·1	70·4
Narayanganj	55·2	58·6	68·2	74·3	75·8	78·3	79·2	79·0	78·9	75·3	66·0	57·3	70·5
Mymensingh	52·5	55·6	64·4	72·2	73·8	76·9	78·3	78·1	77·5	73·2	63·7	54·6	68·4
Saugor Island	59·2	65·5	75·0	79·9	81·0	81·7	80·6	79·8	79·7	76·2	67·1	59·1	73·7
Calcutta	5 5 ·3	60·4	69·5	75·7	77·4	78·5	78·5	78·3	78·0	74·3	64·5	56·0	70·5
Jessore	53·0	57·3	68·2	75·1	76·8	78·8	79·0	78·7	78·5	74·6	64·0	54·9	69·9
Berhampore	53·4	56·5	65·7	74·6	76·6	78·5	78·8	78·7	78·5	74·3	64·0	55·3	69·6
Bogra	51·9	54·5	63·9	71·9	74·5	77·2	78·5	78·4	77·5	72·7	62·4	54·0	68·1
Sibsagar	49·5	53·3	60·0	66·5	71·7	76·4	77·9	77·7	76·2	70·8	59·6	50·7	65·9
Dhubri	53·1	56·0	63·4	70·7	73·2	76·4	78·3	78·3	77·0	72·8	63·5	55·1	68·2
Burdwan	54·9	58·6	68·4	75·7	77·8	79·3	79·4	79·1	78·9	74·6	64·3	56·0	70·6
Patna	50·2	53·6	64·0	73·5	77·7	80·0	79·8	79·5	79·1	72·5	60·5	51·6	68·5
Gaya	51·6	56·2	66·1	74·9	79·5	80·2	78·8	78·4	77·8	71·0	59·7	51·5	68·8
Benares	48·2	52·0	61·8	71·9	78·9	81·9	79·6	78·8	77·4	68·3	56·1	48·2	66·9
Darjeeling	34·8	35·6	42·3	48·9	52·6	56·2	57·7	57·2	55·5	49·8	42·4	36·6	47·5
Jalpaiguri	50·8	52·8	59·7	68·2	72·3	75·2	76·8	76·7	75·3	69·8	60·7	52·9	66·0
Dinajpur	49·4	53·1	61·3	70·7	74·3	77·5	78·9	78·6	77·4	72·0	61·0	51·4	67·1
Purnea	48·3	51·4	60·4	70·0	74·2	77·3	78·7	78·4	77·4	71·2	59·2	49·7	66·4
Darbhanga	52·1	54·4	62·9	71·9	76·3	79·2	79·8	79·3	78·8	73·1	62·0	53·7	68·6
Gorakhpur	49·2	52·6	62·5	72·4	77·3	79·7	79·4	78·8	77·7	70·0	58·3	50·4	67·4
Bahraich	47·1	50·7	58·8	69·7	77·9	79·2	78·8	78·0	76·2	67·2	56·6	48·0	65·7
Bareilly	46·1	49·7	59·0	68·9	76·4	79·8	78·7	78·0	75·8	65·3	52·8	46·0	64·7
Roorkee	44·4	47·7	56·1	66·5	74·6	78·6	78·2	77·0	73·3	61·3	49·8	43·5	62·6
Umballa	43·3	47·8	57·1	66·2	76·9	80·2	78·8	78·1	73·9	60·8	50·9	43·5	63·1
Ludhiana	44·3	47·5	57·5	67·2	75·4	80·7	80·3	79·0	74·8	63·0	50·9	44·0	63·7
Sialkot	42·8	46·1	55·6	66·3	74·8	80·5	79·5	77·7	73·8	61·9	49·9	42·5	62·6
Rawalpindi	37·9	41·4	50·7	59·9	68·6	75·3	76·7	75·2	68·9	55·8	43·3	37·1	57·6
Ranikhet	40·0	40·8	49·1	57·1	60·5	63·0	63·0	62·2	60·0	54·2	47·2	42·6	53·3
Dehra Dun	44·8	47·0	55·0	64·3	70·5	74·4	74·1	73·1	70·0	60·6	51·8	45·6	60·9
Mussooree	37·6	37·7	45·1	54·0	58·2	60·7	60·6	59·9	57·5	51·5	45·4	40·2	50·7
Chakrata	36·2	36·1	44·3	52·1	56·6	60·0	60·2	59·5	57·0	50·9	43·9	39·3	49·7
Simla	34·5	35·6	46·0	52·2	58·6	61·0	60·1	59·5	56·4	51·0	45·0	39·1	49·9

TABLE X.—*Average monthly and annual means of minimum temperatures of 170 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Murree	35·2	34·5	43·3	52·3	59·4	64·5	62·5	61·0	58·8	53·3	45·6	39·0	50·8
Srinagar	26·4	27·3	37·1	45·4	52·1	58·8	64·6	62·9	53·0	39·8	31·6	28·5	44·0
Leh	8·8	9·8	21·1	30·9	36·8	44·6	50·6	49·8	41·5	29·9	20·5	13·2	29·8
Kailang	14·5	13·8	21·6	31·2	38·1	45·4	51·1	50·3	42·0	31·5	25·5	18·8	32·0
Allahabad	47·9	51·8	62·1	72·4	79·5	82·5	79·4	78·6	76·9	67·6	55·1	47·8	66·8
Lucknow	46·7	50·9	60·3	70·9	77·8	81·3	79·3	78·6	76·5	65·5	52·8	46·2	65·6
Cawnpore	47·1	51·3	60·4	72·3	80·6	82·0	79·6	78·3	76·6	65·8	55·0	47·6	66·4
Mainpuri	46·2	50·4	58·7	70·5	79·8	81·5	79·5	78·4	75·9	64·6	54·2	47·3	65·6
Agra	48·6	52·3	62·7	73·7	81·5	84·5	80·4	78·8	76·7	67·6	55·9	48·8	67·6
Meerut	45·0	48·4	57·7	68·1	75·9	80·4	79·4	78·3	74·6	62·4	50·6	44·7	63·8
Delhi	47·9	51·8	62·2	73·5	80·2	83·3	80·7	79·3	77·0	67·9	56·2	48·9	67·4
Lahore	40·7	44·1	54·2	64·3	72·6	79·3	79·4	77·8	72·6	59·1	46·8	40·3	60·9
Cherat	37·9	40·1	47·9	57·9	68·3	73·1	70·7	70·2	65·9	57·2	49·1	42·6	56·7
Peshawar	39·6	42·6	51·9	60·8	70·0	77·3	79·4	77·8	70·1	57·2	45·1	39·0	59·2
Khushab	41·3	46·1	56·8	68·0	77·3	82·4	82·1	80·8	75·8	61·9	49·7	41·9	63·7
Dera Ismail Khan	40·4	44·9	55·5	66·1	74·9	81·2	82·5	81·0	74·9	60·6	47·0	40·1	62·4
Montgomery	42·2	46·4	55·9	68·1	78·4	84·1	83·9	81·6	76·1	62·2	50·9	43·0	64·4
Mooltan	43·3	47·5	58·4	68·6	77·6	83·7	83·7	82·1	77·6	64·4	52·4	44·4	65·3
Sirsa	43·1	46·8	57·2	68·5	77·4	83·1	81·8	80·2	75·7	62·6	49·5	42·7	64·1
Bikaner	49·4	53·5	64·7	75·6	82·6	85·2	82·8	80·6	79·2	71·4	59·4	51·3	69·6
Pachpadra	45·1	48·9	58·3	69·6	77·5	81·1	79·7	77·3	75·2	64·9	54·1	46·3	64·9
Kurrachee	54·5	58·0	66·1	73·1	78·7	82·1	80·6	78·7	76·9	70·9	61·8	55·9	69·8
Hyderabad, Sind	51·1	54·4	64·2	72·3	78·4	81·7	80·8	78·7	76·2	70·0	60·0	52·3	68·3
Jacobabad	43·3	48·5	59·6	69·7	78·2	84·4	84·3	81·4	76·0	62·5	50·8	44·0	65·2
Quetta	29·3	31·7	40·0	46·3	52·2	59·1	64·7	61·1	49·5	38·3	32·1	29·7	44·5
Chaman	34·7	36·7	44·1	58·0	65·9	71·6	75·1	70·3	62·3	50·7	44·8	38·4	54·4
Colombo	72·1	72·9	74·9	76·0	78·4	77·5	77·6	77·5	77·0	75·4	74·1	73·0	75·5
Trivandrum	71·2	72·4	74·7	76·3	76·3	73·6	73·0	73·0	73·1	72·8	72·1	71·7	73·4
Cochin	71·5	73·7	77·0	78·4	77·6	74·7	74·1	74·3	74·5	74·6	74·4	72·9	74·8
Calicut	69·6	72·6	76·1	77·9	77·9	74·7	73·9	74·1	74·4	74·5	73·1	70·5	74·1
Mangalore	69·5	72·3	76·0	78·7	78·8	75·0	74·2	74·0	74·1	74·6	72·8	70·0	74·2
Mercara	56·6	58·8	61·8	64·2	64·9	63·3	62·2	62·0	61·9	62·2	60·1	57·8	61·3
Karwar	65·5	67·3	73·0	77·9	79·7	76·1	75·1	74·6	73·9	73·4	69·4	66·2	72·7
Goa	67·8	70·1	74·2	78·9	80·5	77·8	76·0	75·8	75·5	75·5	72·2	69·3	74·5
Mormugao	68·9	71·2	75·5	80·0	81·1	77·9	76·2	75·8	75·1	75·6	72·8	70·3	75·0
Ratnagiri	66·2	67·3	72·4	77·4	79·6	77·2	75·7	75·2	74·4	74·0	70·0	67·2	73·1

TABLE X.—*Average monthly and annual means of minimum temperatures of 170 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Bombay	67·9	68·7	73·4	77·7	80·7	79·5	77·5	77·0	76·5	76·5	73·3	69·8	74·9
Surat	56·5	59·0	66·0	72·8	78·1	79·3	77·3	76·5	75·5	70·8	62·8	57·7	69·4
Bhavnagar Para	56·1	59·9	66·8	74·9	78·8	80·4	78·8	77·1	75·5	72·2	64·2	58·3	70·3
Veraval	58·8	60·7	64·9	72·5	78·4	81·0	79·2	77·7	76·3	72·3	67·7	62·0	71·0
Rajkot	51·1	54·5	62·4	69·4	75·1	77·6	75·8	74·5	72·4	68·1	59·3	52·9	66·1
Bhuj	54·4	58·1	65·4	71·5	76·7	79·8	78·1	76·2	74·6	70·9	62·7	56·1	68·7
Ahmedabad	57·0	60·3	67·8	75·2	79·5	80·7	78·2	77·1	76·2	72·1	65·7	60·1	70·8
Deesa	51·5	55·1	63·8	71·7	77·5	80·6	77·6	75·6	73·9	66·8	57·7	52·7	67·0
Tinnevelly	71·6	72·7	75·6	78·6	80·7	79·6	79·4	79·1	78·6	76·6	74·6	72·4	76·6
Madura	68·6	69·5	72·8	76·4	77·5	77·1	76·4	75·8	75·3	74·0	72·5	70·5	73·9
Trichinopoly	67·2	68·4	72·8	77·5	78·7	78·4	77·9	76·7	75·7	74·3	72·0	69·4	74·1
Coimbatore	63·9	65·5	69·8	73·4	73·4	71·6	70·7	70·6	70·7	70·6	68·9	66·1	69·8
Salem	63·7	65·5	70·8	75·8	75·9	74·2	73·0	72·5	71·9	71·1	68·5	65·3	70·7
Wellington	45·2	47·1	52·2	55·9	58·0	58·0	57·9	57·1	55·8	54·8	52·0	48·1	53·5
Mysore	59·3	62·9	67·2	70·3	69·6	68·2	66·9	66·5	66·4	67·0	64·1	59·8	65·7
Bangalore	56·8	59·6	64·7	69·2	69·1	66·8	65·8	65·6	65·3	65·2	61·9	58·7	64·1
Hassan	54·1	57·7	62·2	66·4	66·6	66·1	64·9	64·5	64·2	64·3	59·8	55·5	62·2
Chitaldroog	61·1	65·9	70·2	71·8	71·0	69·5	68·4	68·0	67·5	67·8	64·0	60·8	67·2
Cuddapah	64·4	69·1	75·0	80·8	83·5	80·6	78·0	76·8	75·8	74·2	69·3	65·4	74·4
Karnool	58·7	64·8	71·5	78·0	81·0	76·9	74·7	73·7	73·1	71·0	64·0	58·9	70·5
Bellary	60·5	65·4	72·1	77·1	77·5	75·7	74·6	73·6	72·7	71·1	65·6	60·9	70·6
Raichur	63·4	68·2	74·0	79·2	79·5	74·8	73·1	72·5	72·2	72·2	67·3	63·3	71·6
Hyderabad (Deccan)	58·1	63·4	69·6	75·3	78·6	74·4	71·7	71·1	70·8	68·1	62·1	57·3	68·4
Gulbarga	58·5	64·3	70·7	76·1	78·5	73·7	71·8	71·1	70·9	69·0	62·6	57·8	68·8
Belgaum	57·5	59·6	64·2	67·5	68·2	68·1	66·9	66·2	65·3	65·0	61·1	58·1	64·0
Bijapur	58·6	64·2	70·6	74·8	74·7	72·2	70·8	69·9	69·6	67·8	61·0	56·0	67·6
Sholapur	58·2	62·2	69·3	75·5	76·5	73·2	71·7	70·6	70·4	68·1	62·3	57·5	68·0
Poona	54·3	57·1	63·9	69·7	71·9	72·6	70·8	69·5	68·6	66·5	59·3	53·8	64·8
Ahmednagar	50·7	55·1	62·5	69·6	71·8	72·3	70·5	69·0	68·0	64·6	56·2	51·5	63·5
Malegaon	51·9	55·4	63·6	71·8	75·1	75·0	73·3	71·5	70·2	65·8	57·1	51·3	65·2
Buldana	58·5	62·2	70·1	76·8	77·6	73·4	70·6	69·4	69·2	68·0	62·1	57·9	68·0
Chikalda	56·1	59·6	66·7	72·8	73·4	68·6	65·9	65·0	65·2	64·6	59·3	55·4	64·4
Akola	53·4	57·5	66·0	74·8	81·1	77·7	74·3	73·3	72·7	66·2	57·4	51·4	67·2
Amraoti	57·8	61·7	69·2	76·3	80·0	76·8	73·5	72·6	72·1	68·2	61·6	56·8	68·9
Khandwa	51·8	55·9	64·9	75·3	80·9	78·7	75·3	74·1	73·2	66·3	56·2	50·2	66·9
Nagpur	55·6	60·0	67·8	76·2	81·9	78·5	75·1	74·6	73·8	68·4	60·3	54·3	68·9

TABLE X.—*Average monthly and annual means of minimum temperatures of 170 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Indore	49·8	52·1	60·4	69·7	75·9	75·3	72·6	71·3	70·1	63·6	54·1	49·3	63·7
Neemuch	48·7	52·1	61·5	71·3	77·1	77·3	74·1	72·5	70·9	64·5	54·9	49·5	64·5
Mount Abu	51·2	53·6	61·5	69·1	71·1	68·1	65·7	64·2	64·6	64·3	57·9	52·9	62·0
Ajmer	45·5	49·4	59·7	71·4	79·3	80·8	77·3	75·3	73·6	63·2	51·0	45·6	64·3
Sambhar	45·4	49·7	58·8	71·1	80·2	82·4	79·2	77·2	75·1	63·6	52·9	46·3	65·2
Jaipur	48·0	51·9	60·8	71·1	78·2	81·1	78·2	76·1	73·6	64·0	55·2	49·1	65·6
Saugor	51·8	55·4	64·5	72·8	78·5	77·6	73·9	72·8	71·5	65·7	57·2	51·9	66·1
Sutna	47·6	52·3	61·2	71·6	79·3	81·1	77·0	75·9	74·6	65·7	53·9	47·1	65·6
Nowgong	47·0	51·1	60·8	71·4	79·8	82·4	78·1	76·7	75·0	65·1	53·2	46·4	65·6
Jhansi	51·1	55·4	66·3	76·7	83·6	84·0	78·8	77·1	75·8	69·1	58·6	51·9	69·0
Hoshangabad	52·3	56·0	64·6	73·8	80·3	79·0	75·2	73·8	73·3	66·9	57·3	51·7	67·0
Pachmarhi	47·5	51·5	60·4	69·6	75·1	72·0	68·0	67·1	66·3	59·7	51·3	45·7	61·2
Jubbulpur	48·0	52·4	60·8	70·6	78·9	78·4	74·6	73·9	72·8	64·0	53·1	46·0	64·5
Seoni	51·3	55·4	63·5	71·8	77·1	75·5	72·6	71·6	70·6	64·2	55·4	49·8	64·9
Chanda	54·1	59·2	67·0	76·4	81·9	79·6	75·9	75·0	74·5	68·5	59·3	51·8	68·6
Raipur	55·4	60·5	68·6	76·9	82·0	78·4	74·9	74·9	74·8	69·7	60·7	54·1	69·2
Sambalpur	54·8	59·9	67·3	75·6	81·6	80·7	77·3	77·2	77·3	71·9	62·3	54·0	70·0
Chaibassa	53·1	58·3	67·0	76·0	80·0	78·8	77·5	77·0	76·1	70·3	60·4	52·4	68·9
Ranchi	50·9	54·8	63·3	72·1	76·0	74·6	72·9	72·6	71·7	65·6	57·6	50·6	65·2
Hazaribagh	50·5	54·5	63·8	72·5	75·5	75·8	73·7	73·2	72·2	66·8	57·9	50·5	65·6
Balasore	55·7	61·9	69·6	76·0	78·7	78·6	78·4	78·0	77·8	73·1	63·0	55·0	70·5
False Point	58·3	64·8	72·2	77·6	79·7	80·1	78·6	78·2	78·1	74·6	65·5	57·3	72·1
Cuttack	59·8	65·7	72·5	78·0	80·1	80·1	78·6	78·3	78·1	74·6	66·1	58·7	72·6
Gopalpur	61·2	67·9	73·2	77·5	80·5	80·6	79·2	78·8	78·3	74·2	66·8	60·8	73·3
Waltair	67·9	71·7	75·5	78·6	81·3	80·7	79·3	78·5	78·1	76·3	72·4	68·6	75·7
Cocanada	65·3	69·6	73·5	78·3	82·8	81·0	79·3	78·5	78·1	75·8	70·5	65·7	74·9
Masulipatam	65·3	68·3	72·3	77·6	81·6	80·2	78·1	77·6	77·4	76·0	71·3	66·6	74·4
Nellore	66·3	69·1	72·4	77·4	82·0	82·2	79·6	78·7	77·7	75·8	71·6	68·2	75·1
Madras	67·4	68·0	72·2	77·1	81·1	80·7	78·7	77·3	77·0	75·1	72·3	69·7	74·7
Cuddalore	67·3	68·9	72·2	76·8	80·1	79·4	77·7	76·3	75·7	74·7	71·6	69·1	74·2
Negapatam	70·8	72·1	75·5	79·0	80·2	79·2	78·2	77·3	76·5	75·9	74·1	72·1	75·9
Pamban	74·8	74·9	76·1	79·0	81·4	80·3	79·5	78·6	78·3	77·3	76·1	74·6	77·6
Trincomalee	74·6	75·1	76·0	77·6	78·8	78·4	77·6	77·0	76·6	75·5	74·7	74·5	76·4
Port Blair	75·6	74·9	76·6	78·8	78·4	77·8	77·4	77·2	76·5	77·3	77·2	76·7	77·0
Amini Devi	73·9	76·2	78·1	80·0	80·6	78·0	77·5	77·4	77·2	76·5	75·5	73·8	77·1
Perim	73·5	71·2	75·8	78·8	81·9	82·7	83·4	83·4	83·1	80·5	77·1	74·6	79·1

TABLE X.—*Average monthly and annual means of minimum temperatures of 170 stations in India, etc*—concld.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Aden	72·8	73·4	75·2	77·3	81·0	83·7	82·3	79·6	82·2	77·7	74·7	73·0	77·7
Muscat	67·2	67·8	72·0	80·5	85·9	86·1	87·5	84·3	83·4	81·1	75·3	70·7	78·7
Jask	60·3	61·8	66·1	73·3	78·3	83·1	84·8	84·0	80·9	75·5	68·7	63·8	73·4
Bushire	51·7	52·8	58·8	66·7	75·3	80·5	84·3	84·0	79·1	71·2	62·3	55·4	68·5
Ispahan	23·1	29·2	36·2	45·7	54·1	61·9	66·3	61·5	55·1	44·4	35·9	29·2	45·2
Teheran	26·2	32·9	38·4	49·9	59·4	67·1	72·1	70·7	64·9	54·0	42·2	33·9	51·0
Kalat	20·3	24·9	32·2	37·3	43·3	48·9	53·1	48·1	39·5	29·6	26·5	24·1	35·7
Kabul	17·8	23·3	35·6	45·1	53·2	58·6	61·6	59·5	51·0	41·4	34·9	27·7	42·5
Gilgit	31·6	36·6	45·3	54·0	61·8	70·0	73·3	72·1	64·5	53·1	42·8	34·5	53·3
Kashgar	12·5	22·5	36·1	49·0	58·1	65·6	68·6	65·3	56·9	42·2	28·8	16·4	43·5
Baghdad	38·3	41·8	48·2	56·9	67·9	75·4	79·4	78·8	71·8	62·3	49·5	42·9	59·4
Zanzibar	79·6	80·3	79·3	77·6	75·6	74·2	72·7	72·7	73·4	75·3	77·1	79·5	76·4

TABLE XI.—*Average monthly and annual diurnal range of temperature of 170 stations in India, etc.*

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Mergui . . .	21·2	20·5	19·3	18·2	15·3	12·6	12·0	11·6	12·2	15·1	17·7	20·6	16·4
Tavoy . . .	25·3	24·3	23·1	19·8	13·2	10·1	9·2	9·0	10·3	14·7	19·4	22·9	16·8
Moulmein . .	23·2	23·8	21·4	18·2	13·5	9·8	8·8	8·9	10·3	13·7	17·3	20·3	15·8
Rangoon . .	24·9	26·9	25·5	22·4	14·6	10·0	9·5	9·4	9·8	12·1	15·3	20·0	16·7
Bassein . . .	24·0	25·1	23·9	20·7	14·5	10·0	8·9	8·8	9·7	12·2	14·7	19·3	16·0
Diamond Island .	13·0	11·9	10·6	10·4	9·8	9·2	8·7	8·7	9·0	9·8	10·3	11·7	10·3
Akyab . . .	22·1	23·3	20·2	15·8	12·4	7·9	7·2	7·1	8·6	11·1	13·7	17·7	14·0
Toungoo . .	27·7	29·8	29·3	24·4	19·0	13·6	11·6	11·7	13·4	15·5	17·3	21·9	19·6
Thayetmyo . .	32·4	35·7	33·3	27·2	20·7	14·6	12·6	12·8	13·9	16·3	20·7	26·3	22·2
Taunggyi . .	31·1	29·5	29·4	25·3	16·8	13·0	12·0	12·1	14·3	18·5	22·2	24·1	20·7
Lashio . . .	30·1	30·3	30·5	28·0	21·5	16·2	14·3	14·0	17·0	20·0	22·8	25·8	22·6
Bhamo . . .	28·7	29·1	28·9	26·3	21·0	15·6	12·7	12·7	15·6	18·9	22·6	25·6	21·5
Kindat . . .	23·8	27·8	30·4	29·4	20·8	13·7	11·9	11·3	12·9	14·9	17·1	19·4	19·4
Minbu . . .	29·6	30·4	30·0	26·5	19·8	15·2	14·1	13·6	14·0	16·3	20·4	24·0	21·2
Yamethin . .	32·6	31·9	31·0	26·2	19·1	16·6	15·4	15·5	16·9	18·7	21·8	27·8	22·8
Mandalay . .	28·1	29·8	29·8	24·5	20·0	16·5	15·8	15·7	15·9	17·0	19·5	23·0	21·3

TABLE XI.—*Average monthly and annual diurnal range of temperature of 170 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Chittagong . .	23·0	23·3	19·1	15·2	13·2	10·0	9·1	9·4	10·5	13·1	17·2	20·1	15·3
Silchar . . .	25·5	25·1	22·8	19·3	16·2	13·2	13·0	12·7	13·4	16·4	21·2	24·7	18·7
Barisal . . .	23·2	22·0	20·1	16·8	14·5	10·5	8·7	8·6	10·2	13·0	17·8	21·5	15·6
Narayanganj . .	22·7	23·6	21·8	18·9	15·5	10·7	9·1	8·5	9·6	12·6	17·5	20·7	15·9
Mymensingh . .	22·5	22·8	22·5	18·6	14·8	10·3	8·8	8·8	9·6	13·0	17·8	21·6	15·9
Saugor Island .	17·4	15·7	12·2	10·9	10·8	8·7	7·2	7·4	8·5	10·7	14·6	17·2	11·8
Calcutta . .	21·8	21·6	21·3	19·9	17·1	12·6	9·5	8·8	9·7	12·4	16·9	20·5	16·0
Jessore . . .	24·9	25·8	24·2	22·1	18·0	12·7	10·2	9·9	10·9	13·8	19·1	22·7	17·9
Berhampore . .	23·4	25·5	27·0	25·4	19·9	13·9	10·6	9·9	10·4	13·2	17·9	21·2	18·2
Bogra . . .	24·2	25·7	26·3	24·3	18·0	12·6	10·6	9·9	10·9	14·5	19·6	22·9	18·3
Sibsagar . .	20·6	19·8	19·1	16·0	14·2	12·9	12·1	11·5	11·9	14·0	18·7	20·8	15·9
Dhubri . . .	20·9	22·0	23·1	18·0	12·7	9·3	7·6	7·7	8·1	11·7	16·3	19·2	14·7
Burdwan . .	23·9	25·2	25·3	24·9	20·6	14·5	10·8	10·1	10·8	14·1	18·9	22·2	18·4
Patna . . .	22·8	24·6	26·9	27·1	22·5	16·4	10·3	9·6	10·8	15·7	21·2	22·6	19·2
Gaya . . .	24·3	25·1	27·2	28·5	25·4	19·4	12·6	11·6	13·2	18·6	23·5	24·7	21·2
Benares . . .	26·1	28·4	31·0	31·2	26·6	18·2	11·6	10·7	13·6	21·6	26·0	26·8	22·7
Darjeeling . .	12·0	12·3	14·2	13·3	11·2	9·0	8·3	8·3	8·6	10·7	11·8	12·1	11·0
Jalpaiguri . .	21·2	23·7	25·1	21·3	16·0	12·7	11·4	11·4	11·9	16·0	20·6	22·3	17·7
Dinajpur . .	26·3	26·3	27·8	23·9	17·4	12·0	10·2	10·2	10·8	15·4	21·4	25·5	19·0
Purnea . . .	26·4	27·7	29·5	27·0	20·6	14·8	11·3	10·8	11·5	16·2	22·7	26·1	20·3
Darbhanga . .	20·6	22·4	25·0	24·2	19·3	13·2	9·7	9·2	9·5	13·6	19·3	20·8	17·3
Gorakhpur . .	23·7	25·4	28·0	28·0	23·7	17·2	11·7	11·0	12·8	18·7	23·3	23·8	20·6
Bahraich . .	25·3	26·0	30·2	29·9	25·1	18·2	12·5	11·9	14·8	22·9	26·2	27·0	22·5
Bareilly . . .	24·5	25·3	28·5	30·4	26·8	19·9	12·9	11·9	14·7	24·2	28·3	26·8	22·9
Roorkee . .	25·2	25·4	29·3	31·7	28·2	21·8	13·9	13·7	18·0	28·0	30·7	28·9	24·6
Umballa . .	24·5	23·7	26·8	31·5	28·3	21·2	14·5	14·7	19·8	32·4	31·4	28·6	24·8
Ludhiana . .	22·9	23·7	26·9	30·2	29·0	24·1	16·7	16·0	20·1	28·9	29·7	27·0	24·6
Sialkot . . .	23·4	23·5	26·1	28·9	28·3	25·0	18·1	17·0	21·9	30·4	31·0	27·6	25·1
Rawalpindi . .	25·2	23·4	25·8	28·5	29·5	27·5	20·6	18·7	24·7	32·4	33·9	30·5	26·7
Ranikhet . .	14·5	14·8	16·2	17·7	17·7	14·9	10·9	10·2	12·6	15·0	15·3	14·9	14·6
Dehra Dun . .	21·4	22·2	24·7	26·3	24·5	18·6	11·4	10·9	14·3	21·7	23·2	23·1	20·2
Mussooree . .	11·3	12·4	15·5	18·4	19·8	16·0	10·4	9·2	11·1	13·4	12·2	11·2	18·4
Chakrata . .	14·4	15·1	17·4	18·2	17·7	14·3	9·7	9·3	11·7	15·3	16·1	15·6	14·5
Simla . . .	10·0	10·3	10·4	13·0	14·5	13·4	9·1	7·6	9·7	11·4	11·1	10·3	10·9

TABLE XI.—*Average monthly and annual diurnal range of temperature of 170 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Murree . . .	12·0	13·5	15·0	16·5	17·5	17·2	14·5	13·4	15·0	16·0	15·3	13·8	15·0
Srinagar . .	12·6	15·0	18·3	22·8	24·8	24·3	20·3	21·0	26·4	29·9	28·7	19·3	21·9
Leh . . .	21·0	21·6	22·0	26·2	27·2	28·5	27·6	27·6	28·8	28·7	27·1	21·5	25·6
Kailang . .	19·8	19·7	19·8	21·8	23·9	26·4	22·8	23·4	27·2	28·9	26·1	21·2	23·4
Allahabad . .	26·5	28·4	30·9	31·4	27·5	19·2	12·2	11·2	14·6	22·9	28·0	27·9	23·4
Lucknow . .	27·3	27·9	31·2	31·5	27·2	19·2	12·9	11·7	15·6	25·7	30·5	29·5	24·2
Cawnpore . .	26·8	27·5	30·4	29·9	25·6	19·1	12·9	11·6	15·8	25·7	29·1	28·7	23·6
Mainpuri . .	25·5	26·4	31·0	32·0	27·7	19·7	13·2	12·4	17·2	28·3	30·0	27·8	24·3
Agra . . .	24·9	26·3	28·4	28·9	25·7	19·8	12·9	12·3	16·4	25·7	28·5	27·3	23·1
Meerut . . .	25·4	26·1	28·9	30·4	27·1	20·2	13·4	12·6	17·2	28·1	30·7	28·2	24·0
Delhi . . .	22·8	23·0	25·2	26·2	24·5	19·9	13·3	12·5	16·0	24·2	26·7	24·8	21·6
Lahore . . .	28·3	28·6	30·9	33·9	33·1	28·1	21·2	20·4	26·3	36·0	36·8	32·9	29·7
Cherat . . .	11·3	12·0	13·6	17·6	21·3	21·2	17·9	16·7	19·9	21·4	18·1	12·9	17·0
Peshawar . .	23·9	23·5	24·2	26·1	28·6	28·6	23·5	21·4	25·9	31·2	32·0	28·5	26·5
Khushab . .	26·3	22·6	23·8	27·3	27·6	24·7	20·5	19·4	23·8	31·9	33·1	29·8	25·9
D. I. Khan . .	28·7	27·0	28·0	28·4	29·3	26·8	20·9	20·1	25·6	33·4	35·1	32·4	28·0
Montgomery . .	26·3	26·4	29·8	32·0	29·9	25·9	20·8	20·4	25·6	34·4	33·3	29·9	27·9
Mooltan . .	26·9	26·2	28·1	30·4	29·0	24·1	20·1	18·6	22·7	31·1	32·0	29·5	26·6
Sirsa . . .	27·9	28·4	31·4	32·6	29·8	23·6	18·7	18·2	23·2	33·5	35·4	32·2	27·9
Bikaner . . .	22·4	22·4	24·6	25·7	24·5	21·3	17·6	16·5	19·3	24·5	25·3	24·0	22·4
Pachpadra . .	33·3	34·3	36·3	36·7	30·3	24·6	18·0	17·5	22·0	33·8	36·6	35·2	29·8
Kurrachee . .	22·4	21·7	20·0	17·5	14·2	11·9	10·0	9·5	11·9	20·7	25·6	24·4	17·5
Hyderabad (Sind) .	25·7	26·4	28·9	30·4	28·5	22·5	18·1	16·8	21·3	28·0	28·0	26·8	25·2
Jacobabad . .	30·3	29·4	31·5	33·4	33·4	28·3	23·5	22·4	27·5	36·1	36·0	32·7	30·4
Quetta . . .	22·0	21·4	24·5	27·9	31·3	31·5	28·0	29·4	35·9	36·3	32·7	26·9	29·0
Chaman . .	18·7	20·3	23·2	23·6	28·4	28·6	26·4	27·7	29·3	28·0	24·6	20·6	24·9
Colombo . .	15·4	15·4	14·5	12·9	9·6	8·2	7·8	8·1	9·0	10·3	12·3	13·9	11·5
Trivandrum . .	12·2	12·6	12·4	11·2	10·0	9·3	9·1	9·3	9·9	9·9	10·5	11·3	10·6
Cochin . . .	17·6	16·2	14·2	13·1	12·0	10·3	9·4	9·4	10·1	11·6	13·1	15·6	12·7
Calicut . . .	18·0	16·1	14·2	13·4	12·5	9·9	8·6	8·7	9·9	11·7	14·3	17·1	12·9
Mangalore . .	19·0	15·8	13·4	12·4	11·5	10·0	8·8	8·8	9·2	11·1	15·5	19·5	12·9
Mercara . .	21·1	22·4	22.8	19·7	15·4	9·6	6·7	7·7	10·3	13·6	15·8	17·4	15·2
Karwar . . .	21·4	19·0	14·8	12·1	10·1	9·2	7·9	7·9	8·8	12·0	18·0	21·5	13·5
Goa . . .	19·1	16·5	13·1	10·3	9·5	7·4	6·4	6·1	7·1	9·8	15·2	18·1	11·5

TABLE XI.—*Average monthly and annual diurnal range of temperature of 170 stations in India, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Mormugao . .	16·9	13·7	11·4	10·1	8·9	9·1	7·5	7·6	8·4	10·4	14·2	16·0	11·2
Ratnagiri . .	21·5	19·1	15·4	12·7	11·5	9·4	8·2	8·5	9·8	14·2	20·5	22·3	14·4
Bombay . . .	14·7	13·9	12·3	10·8	10·0	8·1	6·9	7·0	8·0	11·0	13·6	14·7	10·9
Surat . . .	30·4	30·7	30·6	27·3	20·1	14·4	10·0	10·5	13·0	22·2	27·8	29·7	22·2
Bhavnagar Para .	26·4	26·0	26·9	25·9	24·1	17·9	14·6	15·7	17·5	23·9	25·7	26·7	22·6
Veraval . . .	22·7	20·8	21·4	15·2	8·3	5·4	4·5	5·0	7·5	17·0	20·6	22·1	14·2
Rajkot . . .	32·9	32·7	33·2	33·4	30·3	22·2	14·8	14·4	19·0	27·2	31·1	32·5	27·0
Bhuj . . .	26·0	26·2	28·5	29·5	24·6	17·8	11·9	12·5	17·5	25·2	26·5	26·1	22·7
Ahmedabad . .	27·0	27·2	29·2	30·2	27·6	19·0	13·2	13·0	15·9	24·6	25·7	25·8	23·2
Deesa . . .	31·6	31·4	32·3	32·5	29·2	21·3	14·1	13·3	18·9	30·1	33·8	32·7	26·8
Tinnevelly . .	16·1	19·3	20·9	19·4	19·7	17·5	16·4	17·6	19·2	17·1	14·1	13·8	17·6
Madura . . .	18·9	22·5	23·9	22·9	22·6	21·1	20·8	20·8	20·0	17·3	14·8	15·5	20·1
Trichinopoly . .	20·2	23·9	25·1	23·6	23·1	20·6	19·6	19·9	19·8	16·7	15·1	15·8	20·3
Coimbatore . .	22·9	26·5	26·5	24·0	21·6	18·3	17·3	18·1	18·9	17·7	17·3	19·0	20·7
Salem . . .	24·6	28·1	27·8	24·9	23·3	21·0	20·1	19·7	19·4	18·5	18·8	21·1	22·3
Wellington . .	22·4	23·7	21·9	20·0	18·1	14·2	13·2	14·3	15·5	14·3	15·3	18·1	17·6
Mysore . . .	24·7	25·9	26·3	23·7	22·5	16·4	15·8	17·5	18·1	17·1	18·4	21·8	20·7
Bangalore . .	23·4	26·2	26·0	24·0	22·2	17·9	16·1	16·2	16·6	16·2	17·4	19·3	20·1
Hassan . .	27·4	28·7	28·8	24·7	21·0	13·4	11·9	13·8	15·6	17·0	20·0	23·9	20·5
Chitaldroog . .	22·7	23·4	24·2	24·0	22·7	16·3	13·5	14·1	16·0	16·8	18·1	20·5	19·3
Cuddapah . .	24·0	26·0	26·7	24·4	22·8	19·7	17·3	16·9	16·7	17·7	19·2	21·4	21·1
Kurnool . .	30·0	29·7	29·4	25·6	23·8	19·8	16·7	16·1	16·1	19·9	24·1	28·0	23·3
Bellary . . .	27·1	28·8	28·2	26·3	24·9	18·8	16·3	17·2	17·9	18·6	21·1	24·7	22·5
Raichur . .	23·3	24·6	24·8	22·9	23·9	19·9	17·0	16·0	15·5	16·8	18·8	21·6	20·5
Hyderabad . .	26·4	27·9	28·3	26·7	25·2	19·9	15·4	15·0	15·9	19·5	21·7	25·1	22·2
Gulbarga . .	28·2	28·3	28·5	27·1	26·3	21·0	18·0	17·2	16·6	21·0	24·4	27·2	23·6
Belgaum . .	26·0	29·0	29·7	28·5	24·8	12·7	8·8	9·9	13·6	18·1	21·0	23·5	20·4
Bijapur . .	26·6	26·2	25·8	25·0	25·6	18·3	15·4	16·2	16·3	20·4	24·6	28·0	22·3
Sholapur . .	29·5	31·5	31·1	29·3	28·3	21·6	17·8	18·2	18·0	21·8	25·2	28·0	25·0
Poona . . .	31·6	34·2	33·8	31·9	27·3	16·6	11·5	12·4	15·8	22·0	27·0	30·5	24·6
Ahmednagar .	33·3	33·0	31·3	29·3	27·6	18·1	14·7	15·8	17·2	23·5	29·1	31·5	25·4
Malegaon . .	33·7	34·5	33·7	31·4	28·9	19·9	14·1	15·1	17·7	24·8	30·0	32·9	26·4
Buldana . .	22·8	24·0	23·6	23·2	23·5	18·4	13·3	12·7	13·9	17·5	19·9	21·5	19·5
Chikalda . .	17·1	18·2	19·1	19·4	20·4	15·2	8·3	7·7	9·7	13·2	15·4	16·8	15·0

TABLE XI.—*Average monthly and annual diurnal range of temperature of 170 stations in India, etc.*—contd.

STATION.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Akola . . .	31·8	33·2	33·2	31·2	26·6	20·5	14·7	13 9	16·4	25·1	29·6	32·2	25·7
Amraoti . .	26·8	28·4	28·9	28·7	27·7	20·4	13·8	13·5	16·3	22·4	24·7	25·9	23·1
Khandwa . .	32·1	32·9	32·7	29·5	25·6	18·9	12·3	11·4	14·9	24·8	30·6	32·8	24·9
Nagpur . . .	27·9	29·3	30·5	29·3	27·4	19·8	12·7	12·4	15·5	21·7	24·7	27·0	23·2
Indore . . .	29·6	31·2	32·1	30·9	26·9	19·1	11·9	11·6	15·3	24·3	29·1	30·0	24·3
Neemuch . .	28·9	29·1	29·9	29·6	26·9	21·0	13·3	12·5	17·0	25·9	29·6	28·9	24·4
Mount Abu . .	15·4	15·2	16·2	16·6	17·1	15·2	8·9	7·8	10·7	14·5	15·6	15·7	14·1
Ajmer . . .	28·6	28·4	29·4	27·9	24·5	19·7	14·0	12·9	17·2	28·8	32·9	30·7	24·6
Sambhar . .	28·2	27·7	29·9	29·3	24·9	19·9	15·1	14·1	18·6	29·7	31·6	29·7	24·9
Jaipur . . .	26·6	26·7	28·9	30·6	28·4	21·4	15·3	15·5	20·6	30·3	30·6	28·6	25·3
Saugor . . .	25·1	25·9	27·6	28·7	26·6	20·2	11·3	10·8	15·1	21·9	24·8	24·8	21·9
Sutna . . .	27·5	27·3	30·1	30·1	26·2	17·6	10·4	10·0	13·4	22·2	27·2	28·0	22·5
Nowgong . .	28·1	29·2	31·6	32·0	27·6	19·2	11·8	11·2	15·4	25·2	29·1	28·8	24·1
Jhansi . . .	25·3	25·8	26·8	27·5	24·7	18·8	12·4	11·8	15·9	23·8	26·7	26·5	22·2
Hoshangabad .	28·0	29·4	31·1	31·0	27·3	19·1	11·5	11·2	14·8	22·7	27·0	27·6	23·4
Pachmarhi . .	23·8	24·0	24·0	22·9	20·0	13·9	7·8	7·6	10·9	18·4	22·0	24·6	18·3
Jubbulpore . .	29·6	30·0	32·0	31·4	26·7	18·5	11·3	10·8	14·6	23·4	28·8	30·9	24·0
Seoni . . .	27·9	28·4	29·7	29·3	26·8	18·7	11·2	11·5	15·0	22·4	25·9	27·9	22·9
Chanda . . .	31·3	32·6	32·7	30·1	27·6	18·9	12·7	12·6	14·6	21·6	25·9	30·7	24·3
Raipur . . .	26·2	26·9	27·9	27·4	25·4	18·8	11·6	11·0	13·4	18·6	22·5	25·1	21·3
Sambalpur . .	27·4	28·1	29·4	28·7	25·3	16·6	10·2	10·0	12·0	16·9	21·5	25·8	21·0
Chaibassa . .	28·0	26·9	27·8	27·6	25·1	17·4	12·1	11·6	13·8	18·4	23·1	27·3	21·6
Ranchi . . .	23·5	23·4	24·3	25·0	23·6	16·5	11·1	10·7	12·7	17·4	20·2	23·1	19·3
Hazaribagh . .	22·6	23·5	24·8	25·6	23·7	16·7	10·9	10·5	12·5	16·5	19·4	21·7	19·0
Balasore . .	25·6	23·5	22·8	21·5	18·9	13·3	10·1	9·9	11·1	14·9	20·6	25·0	18·1
False Point . .	20·8	18·0	15·1	12·3	11·3	10·2	9·0	8·8	9·8	12·8	16·9	20·6	13·8
Cuttack . .	24·7	24·4	24·5	24·0	21·5	15·4	11·2	10·8	12·1	15·1	19·0	23·4	18·8
Gopalpur . .	19·1	15·6	13·4	10·2	9·3	8·6	8·2	8·6	10·0	13·4	16·6	19·5	12·7
Waltair . .	12·8	12·8	11·6	11·3	11·1	10·2	10·2	10·7	11·0	12·4	12·0	12·6	11·6
Cocanada . .	15·7	16·2	18·2	17·3	17·9	14·2	12·4	11·2	11·1	12·1	13·0	15·0	14·5
Masulipatam . .	18·2	18·6	19·1	17·4	18·5	17·5	14·6	13·7	13·3	12·9	13·8	16·4	16·1
Nellore . .	19·7	21·5	23·8	23·5	24·0	19·6	17·7	16·9	16·9	15·4	15·1	16·6	19·2
Madras . .	17·3	18·9	17·8	16·0	17·4	17·8	17·0	16·5	16·0	13·9	12·8	13·6	16·3
Cuddalore . .	16·0	16·5	17·1	16·0	18·7	18·8	18·2	17·4	16·2	13·4	13·2	14·1	16·3

TABLE XI.—*Average monthly and annual diurnal range of temperature of 170 stations in India, etc.*—concld.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Negapatam . .	11·0	12·3	13·2	13·5	17·1	17·9	17·7	16·4	16·0	12·5	10·0	9·4	13·9
Pamban . .	7·1	10·0	12·7	11·9	9·8	9·4	9·6	10·4	10·7	9·8	8·2	7·0	9·7
Trincomalee . .	8·7	9·9	12·0	13·4	14·2	13·2	14·0	15·1	14·6	12·9	10·6	8·0	12·2
Port Blair . .	10·8	13·2	14·5	13·7	10·6	8·2	8·0	8·1	8·6	9·6	9·6	9·2	10·4
Amini Devi . .	10·3	9·1	9·9	10·4	9·5	8·1	7·5	7·9	7·8	8·7	9·5	11·1	9·1
Perim . . .	9·2	9·3	9·5	9·9	10·6	12·5	13·0	12·7	11·7	10·6	9·8	9·7	10·7
Aden . . .	7·8	8·3	9·2	11·8	12·3	11·0	10·8	11·9	11·4	12·5	10·2	8·8	10·5
Muscat . . .	5·0	5·0	4·6	5·3	5·6	5·7	3·9	3·6	3·8	4·7	4·7	4·7	4·7
Jask . . .	13·5	13·1	12·6	13·9	14·1	12·7	11·0	10·5	12·6	15·2	14·5	14·2	13·1
Bushire . .	12·4	12·9	13·5	14·9	13·8	11·4	11·0	13·0	15·2	16·6	15·8	13·8	13·7
Ispahan . .	23·4	25·1	24·8	27·4	30·0	32·5	32·1	34·0	35·3	33·0	26·0	23·1	28·9
Teheran . .	16·1	19·2	18·8	21·5	23·5	27·3	26·3	26·0	25·8	23·5	19·2	17·4	22·0
Kalat . . .	32·1	31·3	32·4	38·8	42·1	43·3	40·0	42·3	45·7	44·1	40·4	34·0	38·8
Kabul . . .	27·2	25·2	21·5	26·3	29·4	30·7	30·8	32·9	36·3	33·8	32·7	27·2	29·5
Gilgit . . .	13·6	14·7	16·4	18·7	23·6	24·6	23·3	22·1	22·2	20·8	19·2	14·7	19·5
Kashgar . .	19·9	22·6	20·1	22·6	22·7	24·3	22·9	22·8	24·7	26·5	23·2	20·2	22·7
Baghdad . .	21·8	22·9	24·1	24·7	23·9	26·4	27·9	29·6	30·1	30·5	25·2	20·5	25·7
Zanzibar . .	6·5	6·7	7·0	7·1	6·8	7·3	7·5	8·1	8·6	7·9	6·6	6·3	7·2

TABLE XII.—*Comparison of monthly mean air temperatures in 1902 with the averages of past years.*

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
BURMA COAST AND BAY ISLANDS.	Port Blair	+1·1	+0·8	+0·6	+1·1	+0·1	+0·3	+1·4	+0·2	−0·2	+1·8	+0·6	+0·9	+0·8
	Rangoon	+0·6	−0·4	+1·5	+0·9	−0·8	+0·2	+0·2	+0·7	+0·7	+0·5	+1·0	+0·5	+0·5
	Diamond Island. . . .	+1·8	+2·6	+2·7	+3·0	+0·3	+0·7	+1·4	+1·6	+0·7	+1·0	+1·6	+1·3	+1·6
	Cocos Island . . .	+2·8	+1·6	+1·1	+2·7	+2·0	+0·8	P	P	P	P	P	P	P
	Akyab	+1·1	0	+0·4	−0·9	−0·8	−0·1	−0·8	+1·0	+0·2	−0·9	−0·7	−1·7	−0·3
BENGAL AND ORISSA.	Chittagong. . . .	+1·3	+0·3	+0·9	−1·3	−0·6	−0·2	−0·5	+1·4	+0·4	−1·0	−1·6	−0·9	−0·2
	Calcutta (Alipore) . .	+1·7	+1·2	+2·0	−2.4	−1·3	+0·7	+0·2	+1·5	+1·3	+0·8	0	+0·6	+0·5
	Saugor Island . . .	+1·0	+0·8	+0·4	+0·1	0	+1·0	+0·5	+1·9	+1·8	+1·5	0	+0·3	+0·8
	False Point . . .	+0·1	−0·1	+0·7	−0·4	−0·1	+0·2	0	+0·9	+1·1	+0·7	−1·1	−0·	+0·1
GANGETIC PLAIN AND CHOTA NAGPUR.	Hazaribag	+2·1	+1·6	+4·1	+0·6	−0·9	+4·3	+0·5	+1·9	+1·3	+0·6	+0·4	−0·2	+1·4
	Darbhanga . . .	+1·3	+1·7	+2·1	−2·1	−0·4	+0·4	−0·3	+1·3	−0·7	−1·2	−1·1	−1·8	−0·1
	Allahabad . . .	+1·1	+0·9	+2·7	+1·3	+1.4	+3·0	−0·2	+0·8	−0·8	−0·7	−1·9	−1·9	+0·5

TABLE XII.—*Comparison of monthly mean air temperatures in 1902 with the averages of past years*—contd.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Upper Sub-Himalayas.	Dehra Dun	+1·6	+3·4	+3·3	−0·5	+0·2	−1·0	−2·0	−1·2	−1·0	−1·9	−0·4	−1·8	−0·1
	Roorkee	+0·6	+1·3	+3·5	−0·5	+0·1	−2·2	−2·3	−0·8	−0·8	−1·2	−0·7	−2·9	−0·5
	Meerut	+1·6	+2·3	+3·0	−0·1	+1·7	−2·0	−1·7	+1·0	−0·4	−0·3	+0·1	−0·7	+0·4
	Lahore	+2·6	+5·3	+3·9	+2·0	+4·1	+0·8	+2·0	+2·8	+1·1	+3·0	+2·9	+0·8	+2·6
	Ludhiana	+3·2	+4·4	+4·4	+1·6	+2·1	−0·2	+0·3	+2·1	−0·5	+1·0	+2·0	−0·9	+1·6
North-West Frontier, Indus Valley and North-West Rajputana.	Peshawar	+2·7	+6·1	+2·4	+0·6	+4·0	+1·4	+0·5	+2·2	+0·9	+0·8	+1·3	−0·8	+1·8
	Jacobabad	+1·5	+3·2	+5·5	+2·8	+3·6	−0·5	+4·1	+1·9	+0·8	+3·8	+3·9	+0·7	+2·6
	Kurrachee	+1·8	+2·3	+3·2	+4·2	+1·4	−0·3	+3·3	+1·8	+2·5	+3·9	+3·5	+1·7	+2·4
East Rajputana, Central India and Gujarat.	Jaipur	+2·9	+4·9	+5·1	+2·6	+1·9	+1·1	+1·8	+3·4	+0·3	+1·6	+1·2	+0·6	+2·3
	Deesa	+2·7	+3·3	+4·8	+3·7	+1·5	+1·1	+6·8	+4·5	+1·4	+2·4	+2·2	+0·7	+2·9
Deccan	Belgaum	+1·7	+1·0	+0·7	+0·6	+1·2	+1·5	+0·5	+2·0	+0·9	+0·3	−0·2	+0·2	+0·9
	Sholapur	+2·8	+0·8	+1·7	+0·9	+2·4	+1·9	+2·7	+3·5	+1·6	+3·1	−0·6	+1·0	+1·8
	Akola	+3·3	+2·5	+2·9	+2·5	+2·4	+4·7	+1·9	+3·1	+0·7	+1·9	0	+1·2	+2·3
	Buldana	+3·1	+2·1	+3·2	+0·7	+1·6	+3·6	+2·3	+2·4	+0·3	+0·8	−0·7	−1·6	+1·5
	Khandwa	+3·8	+3·1	+4·3	+3·0	+2·4	+4·3	+2·8	+3·1	+0·5	+2·1	+0·7	0	+2·5
	Nagpur	+3·2	+1·0	+2·9	+1·7	+2·5	+5·9	+2·0	+2·6	+0·3	+1·3	+0·2	+0·1	+2·0
	Hyderabad (Deccan)	+2·3	+0·1	+2·7	−0·1	+2·7	+2·7	+2·6	+3·3	+1·3	+2·0	−0·5	+2·2	+1·8
West Coast	Bombay	+2·8	+1·8	+2·6	+1·1	+1·8	+1·7	+1·4	+1·7	+0·5	+2·3	+2·1	+0·6	+1·7
	Karwar	+1·5	+0·9	+1·1	+1·1	+1·9	+0·9	+0·3	+1·8	+0·5	+1·2	+1·5	+1·6	+1·2
South India	Salem	0	−0·7	+1·6	0	+0·5	+2·3	+0·5	+1·0	+1·0	−0·4	+0·5	+1·4	+0·6
	Chitaldroog	+1·2	0	+1·7	+1·5	+2·4	+2·2	+1·5	+3·4	+0·7	+1·0	+0·9	+1·8	+1·5
	Bangalore	+1·1	−0·1	+1·3	+0·2	+1·5	+2·5	+1·8	+2·7	+0·7	+0·2	+1·0	+2·2	+1·3
	Hassan	−0·8	−0·7	+0·9	+0·2	+1·5	+1·6	+0·7	+2·2	+0·6	+0·6	+0·2	+1·7	+0·7
	Mysore	−0·5	−0·3	+0·4	+0·7	+1·2	+1·9	+0·5	+1·9	−0·9	+0·4	+0·3	+2·3	+0·7
	Madras	−0·2	−0·9	+0·1	+0·2	+1·5	+1·3	+0·8	+0·2	−0·5	−0·9	+0·4	+0·7	+0·2
	Bellary	+1·8	−0·4	+1·5	+1·1	+1·5	+0·5	+0·8	+2·7	+1·0	+0·3	+0·3	+2·7	+1·2
Hill Station, Baluchistan.	Quetta	+2·9	+4·4	+4·4	+0·6	+2·0	+1·3	+0·2	+1·4	+0·7	+2·0	+3·2	−0·1	+1·9
Hill Stations, Northern India.	Leh	+3·0	+6·3	+1·0	−1·1	+1·0	−1·8	−3·2	−2·5	+0·2	+1·0	+0·1	−2·4	+0·1
	Srinagar	+4·5	+9·0	+3·5	−2·5	+0·7	−1·1	−1·0	−0·9	+0·7	+1·8	+0·3	−0·3	+1·2
	Kailang	+6·6	+5·8	+1·1	−1·5	+1·3	−0·1	−2·6	−2·6	0	+0·9	−1·8	?	?
	Simla (Ridge)	+3·5	+4·1	+1·0	−2·5	−0·1	−2·1	−1·9	−0·8	−1·5	−2·8	−1·3	−1·2	−0·5
	Chakrata	+4·4	+4·6	+1·7	−2·0	−0·7	−1·4	−1·6	−0·5	−0·9	−2·5	−0·7	+1·0	+0·1

TABLE XII.—*Comparison of monthly mean air temperatures in 1902 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Hill Stations, Northern India—*concluded.*	Ranikhet	+1·8	+3·8	+1·6	−1·2	+1·7	−0·3	−0·9	+0·6	−0·3	−2·3	−0·7	−0·6	+0·3
	Katmandu	0	+1·3	+0·9	−1·5	−1·0	−1·6	−1·4	−0·5	−1·4	−3·8	−1·1	?	?
	Darjeeling	?	+2·7	+2·2	−1·0	+0·4	+0·1	+0·3	+1·2	+0·8	−2·0	+0·4	+0·7	?
Hill Stations, Central India.	Mount Abu	+3·7	+3·9	+5·0	+1·9	+0·6	+0·4	+4·3	+3·0	+0·4	−0·4	+0·8	−0·5	+1·9
	Pachmarhi	+3·1	+2·1	+3·5	+2·0	+2·5	+4·8	+2·7	+3·1	+1·3	+1·8	+0·2	+0·7	+2·3
	Chikalda	+2·9	+2·3	+4·2	+0·7	+1·9	+4·0	+2·3	+2·3	+1·0	+1·1	−0·7	−1·6	+1·7
Hill Station, South India.	Wellington	−0·3	−0·6	−0·7	?	?	?	?	?	?	?	?	?	?
Extra India	Aden	−0·1	−0·1	+0·7	+1·3	?	+1·6	?	+4·6	−0·3	+0·6	+1·9	+0·4	?
	Perim	+0·1	−0·3	+0·4	+0·4	+1·1	−0·1	+0·2	+2·4	+0·1	+0·4	+1·9	+0·7	+0·6
	Zanzibar	+0·3	−1·1	+0·7	+0·8	+1·9	+1·0	+1·2	+1·3	+1·3	−0·1	+1·5	?	?
	Port Victoria (Seychelles).	−1·8	−1·4	−0·8	?	−0·9	−0·9	−0·2	−0·5	−0·6	−0·4	−0·4	−0·3	?
	Mauritius (Pamplemouses.)	−0·4	+0·3	−1·4	−0·6	+0·2	+0·8	+1·2	+1·2	+1·1	+1·3	+1·3	+0·1	+0·4

TABLE XIII.—*Geographical summary of the temperature data of Table II in the Monthly Weather Reviews of 1902.*

Meteorological Area.	Number of stations.	January.	February.	March.	April	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
North-West Himalaya	6	+4·0	+5·6	+1·7	−1·8	+0·7	−1·1	−1·9	−1·1	−0·3	−0·7	−0·7	−0·6	+0·3
Sikkim Himalaya and Nepal.	1—2	0	+2·0	+1·6	−1·3	−0·3	−0·8	−0·6	+0·4	−0·3	−2·9	−0·4	+0·7	−0·2
Punjab Plains	3	+2·8	+5·3	+3·6	+1·4	+3·4	+0·7	+0·9	+2·4	+0·5	+1·6	+2·1	−0·3	+2·0
Gangetic Plain	5	+1·2	+1·9	+2·9	−0·4	+0·6	−0·4	−1·3	+0·2	−0·7	−1·1	−0·8	−1·8	0
Western Rajputana	4	+2·4	+3·2	+4·6	+3·2	+1·8	+0·2	+4·6	+2·8	+1·3	+2·4	+2·6	+0·7	+2·5
Eastern Rajputana and Central India.	1	+2·9	+4·9	+5·1	+2·6	+1·9	+1·1	+1·8	+3·4	+0·3	+1·6	+1·2	+0·6	+2·3
Nerbudda Valley	1	+3·8	+3·1	+4·3	+3·0	+2·4	+4·3	+2·8	+3·1	+0·5	+2·1	+0·7	0	+2·5
Chota Nagpur	1	+2·1	+1·6	+4·1	+0·6	−0·9	+4·3	+0·5	+1·9	+1·3	+0·6	+0·4	−0·2	+1·4
Lower Bengal	2	+1·4	+1·0	+1·2	−1·2	−0·7	+0·9	+0·4	+1·7	+1·6	+1·2	0	+0·5	+0·7
Orissa	1	+0·1	−0·1	+0·7	−0·4	−0·1	+0·2	0	+0·9	+1·1	+0·7	−1·1	−0·3	+0·1
Central Provinces South and Berar.	5	+3·1	+2·0	+3·3	+1·5	+2·2	+4·6	+2·2	+2·7	+0·7	+1·4	−0·2	−0·2	+1·9
Konkan	2	+2·2	+1·4	+1·9	+1·1	+1·9	+1·3	+0·9	+1·8	+0·5	+1·8	+1·8	+1·1	+1·5
Deccan, Hyderabad and Mysore.	8	+1·2	+0·1	+1·4	+0·6	+1·8	+1·9	+1·4	+2·7	+0·7	+1·0	+0·2	+1·8	+1·2
East Coast and Carnatic	2	−0·1	−0·8	+0·6	+0·1	+1·0	+1·8	+0·7	+0·6	+0·3	−0·7	+0·5	+1·1	+0·4
Arakan and Pegu	4	+1·2	+0·6	+1·4	+0·4	−0·5	+0·2	0	+1·2	+0·5	−0·1	+0·1	−0·2	+0·4
Bay Islands	1—2	+2·0	+1·2	+1·4	+1·9	+1·1	+0·6	+1·4	+0·2	−0·2	+1·8	+1·6	+0·9	+1·2
Extra-Tropical India	25—26	+2·4	+3·4	+2·8	+0·2	+1·0	+0·2	+0·3	+1·0	+0·3	+0·3	+0·3	−0·4	+1·0
Tropical India	22—24	+1·6	+0·7	+1·7	+0·9	+1·4	+2·0	+1·2	+2·0	+0·6	+0·8	+0·3	+0·5	+1·1
Whole India	47—50	+2·0	+2·1	+2·3	+0·5	+1·2	+1·0	+0·7	+1·5	+0·4	+0·5	+0·3	+0·2	+1·1

TABLE XIV (*a*).—*Variations of the mean monthly maximum temperature from the normal in 1902 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands	+0·1	—1·7	+0·3	+0·2	—1·4	+0·5	+0·4	+1·1	+0·1	+0·8	+1·0	+0·9	+0·2
Burma Inland	—0·5	—0·4	+1·8	—1·4	+0·3	+1·2	—0·7	+0·8	—1·4	—1·5	—0·3	—0·9	—0·3
Assam	+1·3	+2·2	+1·8	—4·3	—0·4	—1·5	—1·4	—0·5	—1·0	—2·2	—0·4	—0·6	—0·6
Bengal and Orissa	+1·3	+1·9	+0·5	—3·9	—1·9	+0·8	—0·4	+1·5	—0·1	—0·1	+0·3	—0·4	0
Gangetic Plain and Chota Nagpur.	+2·5	+3·1	+3·3	—0·9	—1·1	+3·7	+0·8	+2·0	—0·9	—0·3	+0·3	—0·4	+1·0
Upper Sub-Himalayas	+4·2	+6·7	+3·6	—1·1	0	—1·8	—0·3	+2·1	—1·1	—1·8	+0·2	—0·7	+0·8
North-West Frontier Province, Indus Valley and North-West Rajputana.	+5·2	+7·0	+3·9	+1·3	+2·0	—1·9	+2·2	+2·6	+0·2	—0·8	+1·4	+0·6	+2·0
East Rajputana, Central India and Gujarat.	+3·5	+3·3	+4·5	+0·4	+0·4	+1·9	+4·0	+3·3	—1·3	—0·3	+0·4	—1·4	+1·6
Deccan	+2·8	+1·3	+2·9	+0·4	+1·9	+5·0	+2·7	+3·7	—0·1	+1·0	—1·3	—1·9	+1·5
West Coast	+0·7	+1·0	+1·0	+0·8	+1·5	+1·1	0	+1·6	—0·4	+0·5	+0·2	—1·2	+0·6
South India	0	—1·2	+0·6	+0·4	+1·2	+1·9	+0·8	+1·5	—0·1	—0·4	—1·0	—0·5	+0·3

TABLE XIV (*b*).—*Variations of the mean monthly minimum temperature from the normal in 1902 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands	+1·0	+0·2	+2·2	+0·7	+0·4	+0·6	+0·7	+1·0	+0·6	+0·1	+0·6	+2·0	+0·8
Burma Inland	+1·3	—0·5	+0·9	—0·1	+0·2	+0·3	—0·1	+0·4	0	—1·4	—2·2	—1·5	—0·2
Assam	—0·1	—0·8	+1·2	—2·1	—0·2	—0·9	—0·4	+0·4	—0·1	—2·9	—2·8	—2·7	—1·0
Bengal and Orissa	+0·5	—0·9	+1·8	—1·4	—0·8	—0·1	—0·3	+0·6	+0·4	—0·8	—1·3	—0·9	—0·3
Gangetic Plain and Chota Nagpur.	+0·2	—0·9	+2·8	0	+0·1	+1·5	—0·4	+0·9	+0·2	+0·4	—0·9	—1·5	+0·2
Upper Sub-Himalayas	—0·7	+0·3	+2·3	+0·4	+2·1	—0·1	—0·5	+1·4	+0·6	+2·3	+2·0	—1·9	+0·7
North-West Frontier Province, Indus Valley and North-West Rajputana.	—1·4	—1·0	+3·5	+1·9	+1·9	—0·6	+1·5	+1·0	+0·9	+4·2	+2·9	—1·2	+1·1
East Rajputana, Central India and Gujarat.	+1·3	+1·0	+3·7	+2·9	+1·3	+1·2	+1·8	+1·8	+0·8	+2·3	+1·3	+0·7	+1·7
Deccan	+2·0	+0·4	+1·9	+1·7	+1·8	+2·2	+0·7	+1·1	+0·5	+1·6	—0·2	+3·4	+1·4
West Coast	+1·6	+0·6	+1·3	+1·2	+1·5	+0·7	+0·6	+1·5	+0·3	+1·1	+1·9	+3·3	+1·3
South India	+0·4	—1·0	+0·6	+1·2	+0·8	+0·8	+0·6	+0·8	+0·5	—0·2	+1·0	+3·1	+0·7

TABLE XIV (*c*).—*Variations of the mean monthly temperature from the normal in 1902 in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Burma Coast and Bay Islands	+0·6	—0·8	+1·3	+0·5	—0·5	+0·6	+0·6	+1·1	+0·4	+0·5	+0·8	+1·4	+0·5
Burma Inland	+0·4	—0·4	+1·4	—0·8	+0·3	+0·8	—0·4	+0·6	—0·7	—1·5	—1·3	—1·2	—0·2
Assam	+0·6	+0·7	+1·5	—3·2	—0·3	—1·2	—0·9	0	—0·5	—2·6	—1·6	—1·7	—0·8
Bengal and Orissa	+0·9	+0·5	+1·2	—2·7	—1·4	+0·4	—0·3	+1·1	+0·2	—0·5	—0·5	—0·6	—0·1

TABLE XIV (*c*).—*Variations of the mean monthly temperature from the normal in 1902 in the eleven meteorological provinces of India*—concld.

METEOROLOGICAL PROVINCES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Gangetic Plain and Chota Nagpur.	+1·4	+1·1	+3·1	−0·4	−0·5	+2·6	+0·2	+1·5	−0·4	+0·1	−0·3	−1·0	+0·6
Upper Sub-Himalayas . .	+1·8	+3·6	+3·0	−0·4	+1·1	−0·9	−0·4	+1·8	−0·3	+0·3	+1·1	−1·3	+0·8
North-West Frontier Province, Indus Valley and North-West Rajputana.	+1·9	+3·0	+3·7	+1·6	+1·9	−1·3	+1·8	+1·8	+0·6	+1·7	+2·2	−0·3	+1·6
East Rajputana, Central India and Gujarat.	+2·4	+2·2	+4·1	+1·7	+0·9	+1·6	+2·9	+2·6	−0·2	+1·0	+0·9	−0·4	+1·6
Deccan	+2·4	+0·9	+2·4	+1·1	+1·9	+3·7	+1·7	+2·4	+0·2	+1·3	−0·8	+0·8	+1·5
West Coast	+1·2	+0·8	+1·2	+1·0	+1·5	+0·9	+0·3	+1·6	−0·1	+0·8	+1·1	+1·1	+1·0
South India	+0·2	−1·1	+0·6	+0·8	+1·0	+1·4	+0·7	+1·2	+0·2	−0·3	0	+1·3	+0·5

TABLE XV.—*Variations of the mean monthly and annual temperatures from the normal in 1902 in 55 of the 57 meteorological districts or divisions in India.*

PROVINCE.	DIVISION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
BURMA	1. Tenasserim . .	+0·1	−0·8	+1·0	+0·6	−0·5	+0·7	+1·3	+1·0	+0·4	+1·4	+1·9	+3·2	+0·9
	2. Lower Burma Deltaic .	+1·1	−1·0	+2·4	+1·1	−0·2	+0·6	+0·6	+1·0	+0·5	+0·5	+0·9	+0·7	+0·7
	3. Central Burma . .	+1·6	−1·8	+1·4	+1·2	+0·7	+1·4	−0·6	+1·0	−0·2	−0·8	−1·7	−0·7	+0·1
	4. Upper Burma . .	+0·2	−0·5	+1·4	+0·7	+0·2	+0·6	−0·6	+0·5	−0·7	−1·6	−1·3	−1·7	−0·2
	5. Arakan . . .	+1·3	−0·8	?	−1·2	−1·1	+0·2	−0·8	+1·6	+0·2	−1·2	−0·4	−1·8	−0·3
BENGAL AND ASSAM.	6. Eastern Bengal . .	+0·8	+0·5	+0·8	−2·8	−1·4	−0·3	−0·7	+0·9	−0·1	−1·1	−0·7	−0·9	−0·4
	7. Assam, Surma . .	+1·7	+1·4	+2·5	−2·2	+0·4?	−0·7	+0·3?	+0·4	+0·4	−2·1	−1·6	−1·7	−0·1?
	9. Do. Brahmaputra .	0	+0·3	+0·5	−3·8	−0·3	−1·5	−0·9	−0·3	−1·0	−2·9	−1·7	−1·7	−1·1
	10. Deltaic Bengal . .	+1·1	+0·4	+1·0	−2·2	−1·4	+0·6	−0·2	+1·5	+1·1	+0·3	−0·5	−0·1	+0·1
	11. Central Bengal . .	+1·3	+1·0	+1·5	−3·9	−2·2	+0·1	−0·4	+1·0	0	−0·6	+0·4	−0·2	−0·2
	12. North Bengal . .	+1·5	+1·7	+1·3	−3·2	−0·9	−0·2	−0·5	+0·5	−1·4	−1·7	−1·2	−1·8	−0·5
	13. Bengal Hills . .	?	+2·3	+1·5	−1·7	−0·7	−0·2	−0·1	+0·8	−0·2	−2·4	+0·1	+0·7	0
	14. Orissa . . .	−0·2	−0·5	+1·2	−1·3	−0·9	+1·8	+0·3	+1·3	+0·9	+1·0	−0·5	−0·2	+0·2
	15. Chota Nagpur . .	+0·9	+1·2	+3·8	−0·5	−1·9	+3·6	+0·5	+1·7	+1·2	+1·1	+0·2	−0·1	+1·0
	16. South Bihar . .	+1·0	+0·5	+3·0	−0·8	+0·2	+2·2	+0·7	+1·8	−0·9	−0·2	−0·1	−0·5	+0·6
	17. North Bihar . .	+1·4	+1·1	+2·0	−2·4	−1·2	+0·6	−0·1	+1·0	−0·4	−1·3	−0·8	−1·8	−0·2
UNITED PROVINCES OF AGRA AND OUDH.	18. United Provinces, East	+1·6	+0·5	+3·0	+0·9	+0·5	+3·1	−0·1	+1·1	−0·8	−0·1	−0·7	−1·3	+0·6
	19. South Oudh . .	+1·2	+0·8	+2·7	−0·3	+0·4	+2·5	−0·5	+1·1	−1·2	+0·2	+0·1	−0·4	+0·6
	20. North Oudh . .	+2·1	+2·1	?	+0·3?	−0·7	?	+0·4	+0·8	−0·4	−0·3	−0·5	−1·3	+0·3?
	21. United Provinces, Central.	+1·6	+1·5	+3·9	+0·2	+0·1	+2·6	+0·3	+2·3	−0·6	+0·9	−0·1	−1·2	+1·0
	22. Do. do., West	+1·9	+2·6	+3·0	−0·4	+0·8	−1·4	−0·4	+1·8	−0·1	+1·2	+0·8	−1·0	+0·7
	23. Do. do., East Submontane.	+1·7	+1·6	+1·9	−1·4	−1·0	+2·2	−0·8	+0·8	−0·7	−1·6	−1·3	−2·0	−0·1
	24. Do. do., West Submontane.	+2·0	+3·1	+3·2	−0·9	+0·3	−0·3	−1·0	+0·4	−0·3	−1·0	+0·2	−1·1	+0·4
	25. Do. do., Hills	+3·4	+4·3	+1·7	−2·1	0	−0·7	−0·8	0	−0·6	−2·3	−0·5	+0·4	+0·2

TABLE XV.—*Variations of the mean monthly and annual temperatures from the normal in 1902 in 55 of the 57 meteorological districts or divisions in India*—concld.

PROVINCE.	DIVISION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.	26. South-East Punjab .	+1·7	+2·5	+2·6	—0·5	+0·7	—2·0	—1·3	+1·7	—1·1	—0·5	+0·6	—1·4	+0·3
	27. South Punjab . .	+1·6	+3·0	+2·9	?	—0·1	—1·6	+0·7	+2·7	+0·5	+1·2	+2·4	—1·9	+1·0
	28. Central Punjab . .	+1·2	+4·3	?	+0·4	+2·3	—0·6	+1·5	+2·4	—0·2	+1·6	+2·4	—0·8	+1·3
	29. Punjab Submontane .	+1·7	+4·3	+3·2	0	+1·5	—1·4	—0·3	+2·1	—0·4	+0·5	+1·7	—1·7	+0·9
	30. Do. and North-West Frontier Province Hills	+5·5	+6·5	+2·0	—2·2	+0·1	—2·1	—1·7	—0·7	—0·5	—0·9	—1·3	—0·8	+0·3
	31. North Punjab , .	+2·4	+5·2	+2·2	+0·1	+3·4	+0·3	—0·2	+2·7	+0·5	+1·5	+1·2	—0·8	+1·5
	32. West Punjab . .	+1·0	+3·2	+3·1	+0·9	+2·2	—1·7	+0·6	+1·0	+0·5	+1·6	+2·2	—0·9	+1·1
BOMBAY AND MALABAR COAST DISTRICTS (MADRAS.)	33. Malabar . . .	+0·5	+0·3	+0·3	+1·1	+1·3	+1·3	+0·3	+1·5	—0·3	+0·4	+0·9	+1·3	+0·7
	34. Madras, South Central	—0·8	—1·4	+0·3	+0·6	+0·3	+1·4	+0·3	+0·6	+0·4	—0·2	0	+1·0	+0·2
	35. Coorg . . .	—0·5	—0·1	—0·2	?	+0·4	+1·0	+1·1	+1·4	—0·7	+0·4	—0·2	+1·0	+0·3
	36. Mysore . . .	+0·5	—0·6	+1·1	+0·7	+1·1	+1·5	+0·7	+2·0	—0·2	+0·3	+0·4	+2·1	+0·8
	37. Konkan . . .	+1·8	+1·3	+1·6	+0·9	+1·7	+0·7	+0·3	+1·6	+0·2	+1·1	+1·2	+0·9	+1·1
	38. Bombay Deccan .	+2·4	+0·9	+1·2	+0·5	+1·7	+1·3	+0·9	+2·4	+0·8	+1·9	—0·5	+1·2	+1·2
	40. Khandesh . . .	+3·0	+2·1	+3·1	+1·5	+2·2	+2·5	+2·3	+2·3	+0·4	+1·7	—0·8	+0·6	+1·7
CENTRAL PROVINCES AND BERAR.	41. Berar . . .	+3·6	+1·9	+2·8	+1·4	+2·0	+5·0	+1·7	+2·7	+0·4	+1·3	—0·2	+0·5	+1·9
	42. Central Provinces, West	+3·5	+1·3	+3·3	+1·4	+1·7	+5·1	+2·7	+2·6	0	+1·3	—0·8	+0·1	+1·9
	43. Do., Central	+2·2	+1·4	+3·7	+1·1	+1·4	+4·8	+1·4	+2·3	—0·4	+0·9	—0·8	+0·3	+1·5
	44. Do., East .	+1·3	—0·5	+2·5	—0·3	+1·8	+6·6	+0·3	+0·9	—0·7	+0·1	—1·8	—0·5	+0·8
BOMBAY (NORTH)	45. Gujarat . . .	+3·7	+3·3	+4·7	+2·0	+1·1	+2·3	+3·7	+2·6	—0·8	+1·5	+1·6	+0·2	+2·2
	46. Kathiawar and Cutch .	+2·3	+1·4	+3·4	+2·3	+0·7	+0·8	+3·4	+1·6	—0·2	+1·0	+1·2	—0·2	+1·5
	47. Sind . . .	+2·1	+2·4	+4·5	+3·1	+1·6	—1·4	+3·4	+2·0	+1·0	+2·5	+3·3	+1·1	+2·1
	48. Baluchistan Hills .	+4·2	+3·3	+5·6	—0·5	+0·6	+0·1	—1·4	+0·4	—0·7	+1·7	+2·5	+0·9	+1·4
RAJPUTANA AND CENTRAL INDIA.	49. Central India, East .	+2·0	+1·8	+3·5	+1·3	+1·1	+3·7	+2·4	+2·2	—0·4	+0·6	—0·5	—0·8	+1·4
	50. Rajputana, East Central India, West.	+2·4	+3·1	+5·3	+2·3	+0·7	+0·6	+3·4	+3·6	+0·4	+1·1	+1·1	0	+2·0
	51. West Rajputana .	+2·0	?	+3·2	+0·6	+1·4	—1·1	+3·8	+3·0	—0·1	+0·6	+1·0	—1·1	+1·2
MADRAS . .	52. East Coast, North .	+0·8	—1·0	+1·5	0	0	+2·1	—0·9	+1·0	—0·2	+0·1	+0·2	+0·9	+0·4
	53. Hyderabad, South .	+1·9	—0·8	+1·5	+1·0	+2·7	+2·0	+2·5	+3·4	+0·7	+1·7	—0·7	+2·0	+1·5
	54. Madras, Central . .	+1·4	—1·1	+1·5	+1·5	+1·6	+0·4	+1·8	+2·2	+0·5	+0·5	+0·2	+2·4	+1·1
	55. East Coast, Central .	+0·4	—1·4	+0·5	+0·7	+1·3	+1·2	+1·3	+0·4	—1·1	—0·9	—0·5	+0·9	+0·2
	56. Do., South .	—0·1	—0·9	+0·3	+0·7	+1·3	+1·4	+1·0	+0·5	+1·2	—0·9	+0·2	+0·9	+0·5
	57. Madras, South . .	—1·3	—1·4	—0·4	+0·6	+1·6	+1·8	0	+0·9	+0·5	—1·9	—0·9	+0·2	0

In the discussion of the meteorology of India, during the year 1902, the year is divided into four seasons according to the following arrangement:—

1st.—The cold weather period, including the months of January and February.

2nd.—The hot weather period, including the months of March, April and May.

3rd.—The period of the south-west monsoon rains proper, including the months of June, July, August and September.

4th.—The period of the retreating south-west monsoon, including the months of October, November and December.

The following give a resume of the chief features of the temperature conditions during the year:—

I.—The cold-weather period.—January was unusually free from storms. No storm entered North-West India from the countries to the west. The leading features of the meteorology of the month over nearly the whole country were abnormal dryness of the air, absence of cloud and high temperature.

At the commencement of the month temperature was below the normal over Northern India, due to the cool wave following the storm of the last week of December. The influence of this wave did not fully pass away until the beginning of the second week of the month.

The lowest night temperatures of the year were generally recorded during this period in North-Western India. The most noteworthy were:—

Station.	Date.	Lowest minimum temperature recorded during year.	Variation of actual from normal
		°	°
Umballa	4th January	32·0	−11·0
D. I. Khan	5th „	28·0	−11·2
Rawalpindi	6th „	26·0	−10·8
Khushab	„ „	27·4	−13·3
Montgomery	„ „	30·5	−10·6
Mooltan	„ „	36·0	− 6·7
Bikaner	„ „	30·1	−10·4
Lahore	7th „	31·5	− 8·3
Jacobabad	10th „	32·0	−11·0

Temperature was more or less above the normal on the 10th, the excess being most marked in the Konkan, the Bombay Deccan, Khandesh, Berar and the Central Provinces where it ranged between 4° and 7°.

The weather was feebly unsettled in that area of high temperature between the 6th and 10th, and some light local thundershowers were received. This rainfall did not affect the temperature conditions, and the area was throughout the period and until the 13th or 14th characterized by a considerable excess of temperature.

On the 10th a fall of temperature occurred over Baluchistan and North-West India, and a cool wave of slight intensity advanced across Northern India, reaching Orissa by the 15th. The reduction of temperature caused by this cool wave was not very marked, but the recovery after it had disappeared was brisk.

During the period from the 10th to the 15th temperature was largely in excess locally in Gujarat, Khandesh, Berar and the Bombay Deccan. The excess in this area ranged from 3° to 8°.

On the 17th a small area of relatively low temperature appeared over Kathiawar, and this area extended eastward until it spread right across the head of the Peninsula as far as Bengal. A noteworthy feature of this area was the lowness of the night temperatures, more especially as the day or maximum temperatures were generally in excess. These temperature conditions lasted from the 18th to the 23rd, during which period excessive temperatures prevailed over North-West India, slightly higher temperatures than usual over the southern half of the Peninsula, and deficient temperatures within a broad band running from the Konkan Coast to Bengal.

On the 24th the band of relatively low temperature across the central parts of the country disappeared, and from the 24th to the 29th the mean temperature was steadily in excess all over Northern and Central India.

On the 28th there was some snow in Kashmir and probably in the Afghan region. This was followed by an outset of cool north-west winds from the mountain region around the North-West Frontier and by a brisk to rapid fall of temperature. This fall appeared in Baluchistan on the 28th, and the Indus Valley on the 29th and extended all over North-West India on the 30th, when temperature was reduced considerably below the normal.

The following shows fully the progress of this cool wave due to the snowfall in Kashmir and Afghanistan on the 27th and 28th:—

Province or Division.	Variation from normal of mean temperature of 24 hours preceding 8 A.M. of							
	28th Jan.	29th Jan.	30th Jan.	31st Jan.	1st Feb.	2nd Feb.	3rd Feb.	4th Feb.
	°	°	°	°	°	°	°	°
Baluchistan	+6·1	−13·8	−14·8	−11·0	−6·2	−5·5	+0·5	+3·9
Punjab	+7·3	+8·7	−0·2	−3·1	−2·6	−2·0	−0·5	+2·3
Sind	+8·9	+3·3	−5·5	−5·5	−4·9	−3·5	+0·6	+4·6
Rajputana	+10·0	+8·1	−0·9	−6·8	−4·2	−3·5	−4·2	−0·1
United Provinces of Agra and Oudh.	+4·2	+7·1	+7·6	+1·3	−1·5	−1·8	−2·2	−1·0
Bihar	+3·1	+3·8	+5·5	+7·2	+2·0	−1·2	−1·6	−2·7
Chota Nagpur	+1·4	+2·4	+6·7	+7·1	+4·7	+2·1	−1·5	−4·0
Bengal	+2·1	+3·1	+5·1	+6·0	+5·2	+1·2	−1·6	−3·3
Orissa	−0·5	+0·3	+2·6	+3·0	+4·0	+2·9	−0·8	−3·9
Assam	+1·9	+2·4	+2·8	+2·7	+3·3	+1·4	−0·7	−2·4
Central India	+5·9	+7·8	+7·6	+0·4	−2·8	−2·3	−4·6	−2·4
Central Provinces	+2·5	+4·0	+3·9	+1·8	+0·6	0	−3·0	−4·2
Berar	+2·5	+2·0	+4·2	+1·5	+0·4	+0·6	−1·1	−1·6

The meteorology of the month of February was characterised by large abnormal features or variations from the normal conditions, more especially by a very large persistent excess of pressure and almost equally persistent excess of temperature over the whole of India and also by great dryness of the air, absence of cloud and scanty rainfall.

The chief features of the period from the 1st to the 8th were due to the march across Northern India of the cool wave (already described) in the rear of a warm wave followed by the appearance of a second warm wave in the frontier districts.

At the commencement of the month a feeble depression which had advanced from the Persian area across Northern India during the previous four days, was filling up in Bengal.

The warm wave in front of this depression on the 1st lay over Bengal, and the cool wave in its rear in North-Western India. A rapid increase of pressure accompanied the filling up of the depression in Bengal on the 2nd, and from that date to the end of the month pressure was more or less above the normal.

The warm wave in West Bengal on the 1st passed into East Bengal on the 2nd, and Upper Burma on the 3rd. The cool wave in its rear gave the greatest reduction of temperature in Baluchistan on the 1st, Sind and North Rajputana on the 2nd, Central India on the 3rd and North-Eastern India on the 4th, 5th and 6th. The second warm wave was in Baluchistan on the 3rd and the frontier districts on the 4th and 5th.

The chief feature of the period from the 9th to the 14th was the sudden appearance of a central area of high temperature in North Bombay (*i. e.*, Kathiawar and Gujarat) on the 9th and its extension northwards and eastwards, due apparently to local pressure conditions producing an indraught of warm westerly sea winds.

Temperature continued throughout the period most largely in excess in North Bombay, Gujarat and West Rajputana. The conditions were very marked on the 14th, when temperature was from 6° to 10° in excess in that area. A shallow depression due to thermal actions formed on the 13th over Gujarat and some local thundershowers of little importance occurred on the 14th. The depression filled up partially on the 15th, but skies continued more or less clouded. On the 16th it slightly intensified again and extended eastwards. Thunderstorms and duststorms, due to the general disturbance, occurred in the western and northern districts of the Central Provinces and Central India and gave light local showers. As is usual with this class of disturbance, the local rainfall did not modify the temperature conditions.

No change of importance in the meteorology of India occurred until the 19th, and the chief feature during this period from the 15th to the 19th was the persistent large excess of temperature over the whole of Northern and Central India and the North Deccan. A shallow depression formed in Lower Sind during the 24 hours preceding 8 A.M. of the 19th. Light snow fell in Kashmir during the day. The shallow depression marched eastwards across Northern India. During the next three days snowstorms occurred in the higher Kashmir and Punjab ranges and hailstorms on the lower ranges. The storm gave showers in the Upper India hills and Bihar on the 21st, and in Chota Nagpur, Bihar, Bengal and Assam on the 22nd and 23rd. This disturbed weather reduced temperature very slightly in Northern India, and hence temperature continued more or less above the normal over the whole of Northern and Central India and was in slight to moderate defect over the greater part of the Peninsula, an example of the contrast of temperature conditions in Extra-Tropical and Tropical India which is the usual rule in the cold weather.

During the remainder of the month temperature was more or less above the normal over nearly the whole area.

The most important feature of the meteorology of India at the end of the month was the abnormally high temperature in Upper India, the adjacent hill districts and Baluchistan. The excess was most marked in Baluchistan and the Indus Valley, where it was over 10° on the 27th and 28th.

The following gives variation data for five stations at which the excess was greatest on these two days:—

Date.	Station.	Variation from normal of		
		Maximum temperature.	Minimum temperature.	Mean temperature.
		°	°	°
27th February	Chaman . .	+12·4	+14·2	+13·3
	Rawalpindi . .	+12·7	+12·5	+12·6
	Quetta . .	+11·5	+12·7	+12·1
	Jacobabad . .	+12·9	+10·7	+11·8
	Bushire . .	+11·0	+ 8·8	+ 9·9
28th ,,	Leh . . .	+13·5	+13·7	+13·6
	Khushab . .	+11·9	+12·3	+12·1
	Lahore . . .	+ 8·6	+10·9	+ 9·8
	Sialkot . . .	+11·0	+13·0	+12·0
	Montgomery . .	+ 9·8	+ 9·0	+ 9·4

The following gives a summary of the leading features of the temperature conditions during the period:—

(1) The mean maximum or day temperature of the period was excessive over the whole of India except South India, Mysore and the Madras Coast, and also in Burma and Orissa where it was normal or in slight defect. The excess was greatest and exceeded 4° in a large area, including Baluchistan, the Punjab, Sind and Rajputana and from that diminished slowly in amount eastwards and southwards.

The deficiency in the southern half of the Peninsula was small except in South India where it averaged 1·7°.

The distribution of the temperature anomalies was similar in the two months, and the differences or variations were slightly larger and more marked in February than in January.

The following gives comparative data for the various provinces:—

Province or Division.	Variation of mean maximum temperature from normal in		
	January.	February.	Cold weather period, January and February
	°	°	°
Burma	—0·2	—1·3	—0·8
Assam	+1·3	+2·2	+1·8
Bengal	+1·7	+2·1	+1·9
Orissa	—0·5	+0·5	0
Bihar	+2·7	+3·7	+3·2
Chota Nagpur	+0·5	+1·6	+1·1
United Provinces of Agra and Oudh	+3·1	+3·9	+3·5
Punjab	+5·0	+7·6	+6·3
Sind	+4·7	+6·0	+5·4
Rajputana	+4·8	+4·5	+4·7
Gujarat	+3·4	+3·6	+3·5
Central India	+2·3	+2·4	+2·4
Central Provinces	+2·7	+1·8	+2·3
Berar	+4·3	+2·2	+3·3
West Coast	+0·7	+1·0	+0·9
Bombay Deccan	+3·1	+1·7	+2·4
Mysore	+0·6	—1·0	—0·2
Madras Coast	—0·1	—0·9	—0·5
Madras Deccan	+1·9	—0·6	+0·7
South India	—1·4	—2·0	—1·7

The variations were absolutely largest at the stations for which data are given below:—

Station.	Variation of mean maximum temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Srinagar	+14·2	+15·1	+14·7
Cherat	+9·6	+9·8	+9·7
Rawalpindi	+7·4	+10·7	+9·1
Quetta	+8·1	+8·5	+8·3
Khushab	+5·8	+10·3	+8·1
Chaman	+7·4	+7·7	+7·6
Peshawar	+6·2	+8·5	+7·4
Murree	+6·9	+7·7	+7·3
Sialkot	+4·8	+9·3	+7·1

(2) The variations of the mean minimum or night temperature over the greater part of the country were similar in the two months, and hence on the mean of the period. The mean minimum temperature was generally slightly below the normal in Northern India and also in the extreme south of the Peninsula. It was, on the other hand, above the normal to a slight or moderate extent in the intermediate area including Gujarat, Central India, the Central Provinces, Berar, the Deccan and Bombay Coast districts.

The following gives comparative data for the various provinces for the cold weather period:—

Province or Division.	Variation of mean minimum temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Burma	+1·3	—0·1	+0·6
Assam	—0·1	—0·8	—0·5
Bengal	+0·6	—0·6	0
Orissa	+0·2	—1·4	—0·6
Bihar	—0·1	—1·9	—1·0
Chota Nagpur	+1·2	+0·7	+1·0
United Provinces of Agra and Oudh	+0·3	—0·4	—0·1
Punjab	—1·7	—0·1	—0·9
Sind	—0·6	—1·3	—1·0
Rajputana	—0·3	+0·8	+0·3
Gujarat	+2·3	+0·4	+1·4
Central India	+1·6	+0·8	+1·2
Central Provinces	+1·8	+0·2	+1·0
Berar	+2·9	+1·6	+2·3
West Coast	+1·6	+0·6	+1·1
Bombay Deccan	+2·0	+1·1	+1·6
Mysore	+0·4	—0·9	—0·3
Madras Coast	+1·0	—1·1	—0·1
Madras Deccan	+1·4	—0·8	+0·3
South India	—0·6	—0·6	—0·6

(3) The variations of the mean temperature in both months of the cold weather period were similar in character. As the variations of the maximum and minimum temperatures were inverse to each other over the greater part of India, the variations of the mean temperature were small to moderate in amount. Temperature was on the mean of the period in slight defect in South India, normal in Burma, Orissa, Assam, Mysore and Madras, and in excess over the remainder of India. The excess was largest, ranging between 2° and 3°, in the following areas:— Punjab and Berar (each +2°·8), Rajputana and Gujarat (each +2°·5), and Sind (+2°·3).

The following gives comparative data for the various provinces:—

Province or Division.	Variation of mean temperature from normal in		
	January.	February.	Cold weather period, January and February.
	°	°	°
Burma	+0·6	—0·7	—0·1
Assam	+0·6	+0·7	+0·7
Bengal	+1·2	+0·8	+1·0
Orissa	—0·2	—0·5	—0·4
Bihar	+1·3	+0·9	+1·1
Chota Nagpur	+0·9	+1·2	+1·1
United Provinces of Agra and Oudh	+1·7	+1·8	+1·8
Punjab	+1·7	+3·8	+2·8
Sind	+2·2	+2·4	+2·3
Rajputana	+2·3	+2·7	+2·5
Gujarat	+2·9	+2·0	+2·5
Central India	+2·0	+1·6	+1·8
Central Provinces	+2·3	+1·0	+1·7
Berar	+3·6	+1·9	+2·8
West Coast	+1·2	+0·8	+1·0
Bombay Deccan	+2·6	+1·4	+2·0
Mysore	+0·5	—1·0	—0·3
Madras Coast	+0·5	—1·0	—0·3
Madras Deccan	+1·7	—0·7	+0·5
South India	—1·0	—1·3	—1·2

II.—The hot weather period.—As almost invariably occurs when the months of January and February are finer and drier than usual, March 1902 was more disturbed than usual. A large number of depressions of the cold weather type advanced eastwards across Northern India. The following gives a very brief statement of these disturbances and of their influence upon the temperature conditions:—

Cold weather storm of the 1st to the 8th March.—This storm formed in Persia on the 1st and 2nd. It advanced through Baluchistan on the 3rd and 4th, and entered India on the 5th and passed across Northern India into Bengal on the 8th. It gave no rain in the plains of Northern India. A feeble secondary disturbance formed in the North Punjab on the 6th and filled up on the 7th. It gave moderate rain or snow to the Kashmir and Punjab Himalayas. The warm wave in front of the storm was strongly marked, but the cool wave was comparatively feeble, due to the absence of snow on the Baluchistan Plateau.

Cold weather storm of the 7th to the 14th March.—This storm originated in Persia on the 7th and passed through Baluchistan on the 9th. It crossed the frontier on the 10th and passed eastwards across the South-East Punjab, Rajputana, the south-eastern districts of the United Provinces and Chota Nagpur into Orissa and the north of the Bay. The disturbance gave practically no rain or snow in North-Western India. The most noteworthy feature of the storm was the heavy rain which occurred in Bengal accompanying series of thunderstorms. The heaviest reported fall was 7·35 inches at Mollahat in the Khulna district. This rainfall reduced temperature chiefly in Bengal.

Cold weather storm of the 16th to the 22nd March—Weather was very disturbed in South-East Russia, Turkistan and the Persian area from the 12th to the 15th or 16th, and much rain and snow fell over the greater part of that area. A shallow depression appeared in Sind on the 16th. Apparently this depression advanced eastwards, and at the same time a secondary depression formed in the North Punjab. The double disturbance gave heavy rain or snow in the submontane and hill districts of Upper India.

The cold wave in the rear of this storm was of moderate intensity. The following data illustrate the progress of the warm and cool waves:—

Station.	Date.	Largest excess of temperature due to warm wave.	Date.	Largest defect of temperature due to cool wave.	Total range of variation of temperature during period.
		°		°	°
Chaman	17th	+14·4	19th	— 9·8	24·2
Rawalpindi	„	+ 7·3	20th	—12·4	19·7
Jacobabad	18th	+10·5	19th	+ 2·3	8·2
Bikaner	„	+12·5	21st	— 7·0	19·5
Lucknow	19th	+ 9·7	22nd	— 5·7	15·4
Jubbulpore	20th	+ 9·0	23rd	— 1·6	10·6
Ranchi	„	+ 8·5	„	— 8·5	17·0
Berhampore	„	+ 4·1	„	—12·6	16·7
Calcutta	21st	+ 2·2	„	— 9·4	11·6

Depression and cold weather storm of the 25th to the 28th March.—The disturbance orginated in West Persia on the 22nd and was transmitted slowly eastwards along the Persian Gulf into South Baluchistan on the 25th. It advanced thence into Rajputana on the 26th, and at the same time gave rise to a secondary depression in the North Punjab and Kashmir. The original or primary depression advanced eastwards during the next 48 hours and was in the central districts of the United Provinces on the 27th and in Bihar and Bengal on the 28th. The secondary disturbance filled up completely during the 27th.

The double disturbance occasioned moderate precipitation in Kashmir and the North Punjab and gave rise to warm and cool waves of small amplitude and intensity over Northern India between the 25th and 30th.

It will be seen from the preceding account of the temparature changes in Extra-Tropical India that there

was a rapid succession of warm and cool waves during the month. The cool waves were, with one exception, very feeble and exercised little influence on the temperature conditions save in North-Eastern India, where their action was supplemented by the occurrence of rainfall.

Weather was feebly disturbed in the Deccan and the central parts of the country on the 2nd of April and in Bengal on the 3rd, and a series of thunderstorms occurred in these areas. Temperature hence fell over a large part of the country and was reduced below the normal in the region of rainfall which included the whole of Bengal, the Central Provinces and the Deccan.

These disturbed conditions continued during the next two days and caused a further reduction of temperature so that on the 5th temperature was more or less below the normal over the greater part of India.

Temperature, on the other hand, increased during this period in North-Western India and was in moderate to large excess in that area.

A feeble cool wave appeared in Baluchistan on the 7th. It extended rapidly into Upper India during the 7th and reduced temperature very largely on the 7th and 8th in that area and on the 9th in the Gangetic Plain.

Numerous thundershowers occurred in Bengal on the 8th and 9th. Temperature hence decreased very rapidly and on the 9th averaged 7° in defect in Bihar, 5½° in Chota Nagpur and 4° in Bengal.

Bengal and Assam received fairly general rain on the 14th and 15th, and the very large reduction of temperature thence resulting accentuated the deficiency already obtaining in that area.

On the 19th temperature increased generally in India and diminished in Burma, and on the 20th was from 2° to 7° above the normal over the whole of the Indian area except North-Eastern India and Upper and Central Burma where it was in large defect.

A slight disturbance affected the weather in the hill and plains districts of Upper India during the next 24 hours occasioning a fall of snow on the higher ranges of the Western Himalayas. Temperature fell rapidly in Baluchistan and Upper India, and on the 21st was below the normal in these areas and in North-Eastern India and Upper Burma, and in considerable excess in all other districts. The only large change during the next two days was a rapid rise of temperature in Upper India.

During the remainder of the month the temperature conditions in Northern India were determined by the passage across that area of a storm of moderate intensity. The storm gave very disturbed weather in Afghanistan, Kashmir, Thibet and Upper India with heavy falls of snow on the higher elevations in these areas. The cool wave which resulted was of considerable intensity and affected these areas from the 24th to the 28th. The reduction of temperature was most marked in Turkistan and at the higher elevations of Kashmir.

The following gives variation data showing the greatest deficiency of temperature and its locality on each day from the 24th to the 28th :—

Area.	24th April.		25th April.		26th April.	
	Greatest deficiency of temperature.	Locality.	Greatest deficiency of temperature.	Locality.	Greatest deficiency of temperature.	Locality.
	°		°		°	
Turkistan . .	— 12·2	Kashgar	—21·0	Kashgar	—22·2	Kash gar.
Kashmir . .	— 12·1	Srinagar	—13·4	Gilgit	—18·5	Gilgit.
Upper India hills	— 8·5	Cherat	—15·8	Ranikhet	—15·7	Murree.
„ „ plains	— 5·6	Peshawar	— 8·1	Roorkee	—11·6	Rawalpindi
Afghanistan .	— 7·3	Kabul	— 8·8	Kabul	— 9·5	Kabul.
Baluchistan .			— 6·1	Chaman	—15·8	Kalat.

Area.	27th April.		28th April.	
	Greatest deficiency of temperature.	Locality.	Greatest deficiency of temperature.	Locality.
	°		°	
Turkistan . . .	—11·2	Kashgar	— 3·8	Kashgar.
Kashmir . . .	—11·0	Gilgit	—10·4	Gilgit.
Upper India hills . .	— 7·7	Murree	— 3·5	Murree.
„ „ plains . .	—11·2	Montgomery	— 8·5	Sirsa.
Afghanistan . . .	— 6·8	Kabul	—10·4	Kabul.
Baluchistan . . .	—11·8	Kalat	— 6·1	Kalat.

The lowest night temperatures of the month in Kashmir, Baluchistan, Afghanistan and the West Punjab were recorded in this period, but were not so low as have been occasionally registered in the month of April during previous years.

A rapid increase of temperature occurred in Baluchistan, the Punjab and Sind on the 28th and 29th, and at the end of the month temperature was in large excess in the last two areas. The area of low temperature, which covered the Punjab on the 28th, was, in consequence of this rise, displaced eastwards into the Gangetic Plain on the 29th and 30th, so that on the latter date temperature was more or less in defect over the whole of the United Provinces, Bengal, Assam, Upper Burma, Central India and the Central Provinces, and in excess over the remainder of the country.

At the commencement of May temperature was higher than usual over the whole of the country, with the exception of Assam, Bengal and the Madras Coast. The excess was most pronounced in Rajputana and the western half of the United Provinces, over the greater part of which areas it varied between 3° and 6½°.

During the next three days numerous thundershowers occurred in Bengal and Assam, and some local showers in South India, the Deccan and the Upper India hill districts. These showers caused a rapid temporary reduction of temperature in these areas.

A cyclonic storm crossed into Burma from the Bay on the morning of the 6th and initiated a general burst of rain which lasted until the 8th or 9th. The rainfall caused a large reduction of temperature, most marked on the 7th when the mean temperature was, on the average of the whole of Burma, 6° below the normal.

Fine dry weather prevailed over nearly the whole of India during the period from the 5th to the 8th. Temperature hence increased and was in moderate to large excess on the 8th. Weather became disturbed in North-East India on the 9th, and rain was received daily in that area during the next four days. Temperature hence diminished rapidly in that area and was largely below the average on the 12th and 13th.

A depression appeared over Sind on the 11th and marching eastwards passed into the East Punjab and the adjacent hill districts on the 13th. Fairly general rain occurred in East Rajputana, the Punjab, and the neighbouring districts of the United Provinces on the 11th and produced a very rapid fall of temperature.

Before these abnormal conditions had completely passed away, weather became again feebly disturbed in that area during the 13th in consequence of the advance into the Punjab of a cyclonic storm from the Arabian Sea. The influx of sea winds and the rainfall accompanying the storm produced an unusually large but temporary reduction of temperature from the 14th to the 16th. The mean temperature on the 14th was 15° in defect in Sind, and on the 15th 10° in defect in the Punjab and Rajputana.

A remarkable feature of the temperature conditions of the period 8th to the 16th in the Peninsula was the excessive temperature in the coast districts of Madras, south of Cocanada, a result of the prevalence of abnormal dry westerly winds.

The following data for five stations illustrate this feature :—

Station.	Variation from normal of mean temperature of 24 hours preceding 8 A. M. of							
	8th May.	9th May.	10th May.	11th May.	12th May.	13th May.	14th May.	15th May.	16th May.
	°	°	°	°	°	°	°	°	°
Masulipatam	+5·2	+8·8	+7·4	+0·6	+0·8	−0·5	+0·9	+7·8	+8·1
Nellore	+4·6	+1·9	+3·4	+1·8	+2·7	+2·9	+1·3	−1·7	+1·9
Madras	+4·8	+6·7	+4·0	+5·1	+5·4	+3·0	+1·6	+2·9	+6·1
Cuddalore	+2·8	+4·7	+1·3	+3·4	+4·1	+2·3	+0·9	+4·2	+3·1
Negapatam	+3·9	+4·0	+3·6	+1·0	+4·6	+5·0	+1·7	+2·8	+2·2

Temperature increased on the 23rd rapidly in the south of the Peninsula and briskly in Gujarat, and on the morning of the 24th exceeded the normal in all districts except Bengal, Orissa, Bihar and Chota Nagpur. No large change occurred until the 26th, when series of dust-storms and thunderstorms occurred in Upper India and reduced temperature considerably. Temperature was below the normal over the large belt of country lying between the West Punjab and Assam from the 27th to the 29th.

The temperature changes were very irregular on the last two days of the month, but on the whole tended to establish an approximately normal distribution of temperature.

The following summarizes the more important features of the temperature conditions of the period :—

(1) The maximum or day temperature was more or less in excess over the whole of North-Western and Central India during the period, the excess, on the whole, being most marked in March and decreasing to the end of the period. The following gives data :—

Province or Division.	Variation of mean maximum temperature from normal in			
	March.	April.	May.	Period, March to May.
	°	°	°	°
United Provinces of Agra and Oudh.	+3·7	−0·4	−0·5	+0·9
Punjab	+3·2	−0·7	+1·2	+1·2
Sind	+4·7	+2·4	+1·3	+2·8
Rajputana	+5·3	+0·9	+0·8	+2·3
Gujarat	+4·5	+1·0	+0·3	+1·9
Central India	+3·9	−0·2	+0·6	+1·2

It was also in steady excess during the period over the Peninsula, the excess being moderate to considerable in March and May and slight in April. The following table gives comparative data in illustration :—

Province or Division.	Variation of mean maximum temperature from normal in			
	March.	April.	May.	Period, March to May.
	°	°	°	°
Central Provinces	+3·6	−0·2	+1·4	+1·6
Berar	+3·3	+0·7	+1·6	+1·9
West Coast	+1·0	+0·8	+1·5	+1·1
Bombay Deccan	+2·5	+1·7	+2·3	+2·2
Mysore	+1·3	+0·2	+1·4	+1·0
Madras Coast	+0·7	0	+1·0	+0·6
Madras Deccan	+1·8	+0·9	+2·2	+1·6
South India	−0·5	+0·3	+0·9	+0·2

In North-Eastern India the maximum day temperature was more or less above the normal in March, a dry month, but was more or less below it in April and May, due to frequent thunderstorms giving much heavier rain than usual. The following table gives data in illustration :—

Province or Division.	Variation of mean maximum temperature from normal in			
	March.	April.	May.	Period, March to May.
	°	°	°	°
Burma	+1·2	0	−0·6	+0·2
Assam	+1·3	−4·3	−0·4	−1·0
Bengal	+0·5	−4·1	−2·0	−1·9
Orissa	+0·5	−2·4	−1·5	−1·1
Bihar	+2·3	−3·2	−1·3	−0·7
Chota Nagpur	+3·4	−1·2	−2·2	0

(2) The meteorological conditions of the period influenced the temperature throughout the whole 24 hours similarly, and hence the variations of the minimum night temperature were similar to those of the day temperature, differing only slightly in amount.

The minimum temperature was in excess throughout the period over the whole of North-Western and Central India, the variations decreasing from March to May. The mean variation of the period ranged between 1·2° in the United Provinces and 3°·3 in Sind. The following gives data :—

Province or Division.	Variation of mean minimum temperature from normal in			
	March.	April.	May.	Period, March to May.
	°	°	°	°
United Provinces of Agra and Oudh.	+2·6	0	+0·9	+1·2
Punjab	+2·5	+0·8	+2·5	+1·9
Sind	+4·2	+3·8	+1·8	+3·3
Rajputana	+4·3	+2·5	+1·1	+2·6
Gujarat	+3·2	+3·0	+1·4	+2·5
Central India	+3·1	+2·8	+1·6	+2·5

The night temperature was also throughout in excess in the Peninsula. On the mean of the period the variations were largest in the Central Provinces and Berar (averaging 2·2°) and least in Mysore, the Madras coast districts, South India and the Bombay Deccan (averaging nearly 1°). The following gives data in illustration :—

Province or Division.	Variation of mean minimum temperature from normal in			
	March.	April.	May.	Period, March to May.
	°	°	°	°
Central Provinces	+2·7	+2·0	+1·7	+2·1
Berar	+2·2	+2·1	+2·3	+2·2
West Coast	+1·3	+1·3	+1·5	+1·4
Bombay Deccan	+0·8	+0·1	+1·2	+0·7
Mysore	+0·8	+0·8	+0·8	+0·8
Madras Coast	+0·6	+1·0	+0·7	+0·8
Madras Deccan	+1·2	+1·0	+2·2	+1·5
South India	+0·4	+1·0	+0·7	+0·7

The minimum temperature was in slight to moderate excess in Burma and North-Eastern India in March and normal or in slight defect in April and May. On the mean of the whole period the night temperature varied by less than 1° from the normal in these areas except locally in Bihar and Chota Nagpur where it was 1° in excess.

(3) The mean temperature was normal or in slight defect on the mean of the period in North-Eastern India and Burma, as is shown by the following data :—

Province or Division.	Variation of mean temperature from normal in			
	March.	April.	May.	Period, March to May.
	°	°	°	°
Burma	+1·5	+0·2	−0·2	+0·5
Assam	+1·5	−3·2	−0·3	−0·7
Bengal	+1·1	−3·0	−1·5	−1·1
Orissa	+1·2	−1·3	−0·9	−0·3
Bihar	+2·5	−1·6	−0·5	+0·1
Chota Nagpur	+3·8	−0·5	−1·9	+0·5

The mean temperature was above the normal over the whole of North-Western and Central India and the Peninsula throughout the whole period. The excess was

considerable in March and slight in April and May. The following table gives data in illustration :—

Province or Division.	Variation of mean temperature from normal in			
	March.	April.	May.	Period, March to May.
	°	°	°	°
United Provinces of Agra and Oudh.	+3·2	—0·2	+0·2	+1·1
Punjab	+2·9	+0·1	+1·9	+1·6
Sind	+4·5	+3·1	+1·6	+3·1
Rajputana	+4·8	+1·7	+1·0	+2·5
Gujarat	+3·9	+2·0	+0·9	+2·3
Central India	+3·5	+1·3	+1·1	+2·0
Central Provinces	+3·2	+0·9	+1·6	+1·9
Berar	+2·8	+1·4	+2·0	+2·1
West Coast	+1·2	+1·1	+1·5	+1·3
Bombay Deccan	+1·7	+0·9	+1·8	+1·5
Mysore	+1·1	+0·5	+1·1	+0·9
Madras Coast	+0·7	+0·5	+0·9	+0·7
Madras Deccan	+1·5	+1·0	+2·2	+1·6
South India	—0·1	+0·7	+0·8	+0·5

The preceding data show that the area of greates excess of temperature included Sind, Rajputana, Gujarat Berar and Central India.

III.—The south-west monsoon period.—The temperature variations during this period chiefly depend on the amount and distribution of the rainfall. Owing to delay in the establishment of the monsoon over India and the weakness of the Bombay current during the first-half of the monsoon period temperature was considerably to largely above the normal over the greater part of India in June, July and the first-half of August. The rains began feebly on the West Coast in the second week of June and were intermittent during the remainder of June. The current was very unsteady in July. It gave fairly general and moderate rain in the first fortnight of the month and light sporadic rain in the second-half over its usual area of extension. An almost complete break in the rains in that area set in on the 3rd August and continued until the 18th or 19th. The Bombay current then intensified rapidly and gave general and well distributed rain until nearly the end of September when it withdrew rapidly from North-Western India. The following gives a summary of the more important variations of the temperature conditions of the period from the normal.

(1) The daily maximum temperature was generally in slight to moderate excess during the period from June to August and normal or in slight defect in September over the area usually dependent upon the Bay current. The following gives data :—

Province or Division.	Variation of mean maximum temperature from normal in				
	June.	July.	August.	September.	Period June to September.
	°	°	°	°	°
Burma	+0·8	—0·1	+1·1	—0·4	+0·4
Assam	—1·5	—1·4	—0·5	—1·0	—1·1
Bengal	+0·4	—0·5	+1·4	—0·2	+0·3
Orissa	+3·4	+0·4	+2·0	+0·8	+1·7
Bihar	+1·8	+0·9	+1·7	—1·0	+0·9
Chota Nagpur	+4·9	+0·8	+2·0	+0·7	+2·1
United Provinces of Agra and Oudh	+1·9	+0·1	+2·0	—1·2	+0·7
Punjab	—2·1	+0·1	+2·4	—0·6	—0·1

It was, on the other hand, in considerable to large excess over the usual area of extension of the Bombay current during the first three months of the period and normal or in slight defect in September. The following gives data :—

Province or Division.	Variation of mean maximum temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Sind	—2·2	+4·1	+2·7	+0·8	+1·4
Rajputana	0	+4·8	+4·2	—0·7	+2·1
Gujarat	+1·6	+4·7	+2·7	—1·3	+1·9
Central India	+4·5	+3·3	+2·8	—1·4	+2·3
Central Provinces	+6·9	+2·8	+3·4	—0·4	+3·2
Berar	+6·1	+2·3	+3·7	—0·2	+3·0
West Coast	+1·1	0	+1·6	—0·4	+0·6
Bombay Deccan	+3·2	+1·8	+3·9	+0·3	+2·3
Mysore	+2·4	+0·6	+3·1	—0·6	+1·4
Madras Coast	+2·0	+0·4	+0·6	—0·3	+0·7
Madras Deccan	+2·1	+2·9	+3·8	+0·4	+2·3
South India	+1·7	+0·3	+0·6	+0·4	+0·8

The data show that the increase in the day temperature was largest in amount in the Central Provinces and Berar in June, in Rajputana, Gujarat and Sind in July, and in Rajputana, the West and North Punjab and the Deccan in August.

The following table gives data for stations in the area of greatest excess of temperature during the day hours in Berar and the Central Provinces in *June* :—

Station.	Mean maximum temperature		
	Actual, June.	Normal June.	Variation of actual from normal.
	°	°	°
Sambalpur	106·6	97·3	+9·3
Raipur	105·3	97·2	+8·1
Chanda	105·7	98·5	+7·2
Nagpur	105·5	98·3	+7·2
Seoni	101·2	94·2	+7·0
Jubbulpore	103·9	96·9	+7·0
Hoshangabad	104·9	98·1	+6·8
Cocanada	101·8	95·2	+6·6
Ranchi	97·5	91·1	+6·4
Akola	104·5	98·2	+6·3
Sutna	105·0	98·7	+6·3
Amraoti	103·4	97·2	+6·2
Khandwa	102·7	97·6	+5·1

The excess was hence most pronounced in the eastern districts of the Central Provinces.

The highest maximum temperatures of the year were recorded in the first week of June in Upper India. In years of normal conditions the hot-weather usually terminates in the fourth week of May, but in 1902, owing to the delay in the establishment of the monsoon, it was protracted beyond its normal period and the highest temperatures of the year were registered about a week later than usual. The following gives the maximum temperatures of the year recorded at the hottest stations :—

Station.	Highest maximum temperature recorded in June, 1902.	Date on which recorded.	Highest maximum temperature recorded in June previous to 1902.	Year in which recorded.
	°		°	
Jacobabad	125·0	5th June	126·0	1897
D. I. Khan	119·7	,, ,,	121·5	1882
Mooltan	119·0	,, ,,	121·0	1897
Khushab	118·9	4th ,,	120·4	1896&1897
Peshawar	117·5	7th ,,	119·0	1880
Lahore	117·4	4th ,,	119·5	1880

These temperatures were hence from 1° to 2° lower than the highest previously recorded. The absolute maximum of the year was 125° registered at Jacobabad. The following table gives data for the area of greatest excess of the day temperature in July :—

Area.	Station.	Mean maximum temperature		
		Actual, July.	Normal, July.	Variation of actual from normal.
		°	°	°
Rajputana	Deesa	101·3	91·7	+9·6
	Pachpadra	104·4	97·6	+6·8
Gujarat	Ahmedabad	98·3	91·4	+6·9
	Bhuj	95·9	90·0	+5·9
	Rajkot	96·2	90·6	+5·6
Sind	Jacobabad	111·7	107·8	+3·9

The highest maximum temperatures in the region of excessive day temperature were generally registered during the second week of the month. The absolute maximum temperatures recorded at several stations were higher than have been previously observed in the month of July and it was hence the hottest July on record in these areas. The following gives data in illustration :—

Station.	Highest maximum temperature recorded in July, 1902.	Date on which recorded.	Highest maximum temperature recorded in July previous to 1902.	Year in which recorded.
	°		°	
Deesa	111·1	8th	108·9	1881
Bhuj	104·3	6th	104·1	1881
Veraval	92·6	8th	90·8	1891
Ahmedabad	108·3	6th	105·3	1900
Surat	102·2	7th	99·7	1900
Bombay	93·5	11th	89·5	1897
Hyderabad (Deccan)	98·4	11th	97·4	1897

The preceding data indicate that the maximum temperatures recorded at Deesa, Ahmedabad, Bombay and Surat were from 2° to 4° higher than have been previously registered in the month of July.

The following table gives data for the area of greatest excess of the day temperature in August :—

Station.	Mean maximum temperature		
	Actual, August.	Normal, August.	Variation of actual from normal.
	°	°	°
Rawalpindi	98·9	93·9	+5·0
Sialkot	99·5	94·7	+4·8
Peshawar	103·5	99·2	+4·3
Deesa	95·6	88·9	+6·7
Ajmer	92·5	88·2	+4·3
Ahmedabad	94·4	90·1	+4·3
Secunderabad	91·8	86·1	+5·7
Sholapur	93·9	88·8	+5·1
Chanda	92·5	87·6	+4·9

The night temperature was higher than usual throughout the whole period. During the first three months it was in slight to moderate excess over the greater part of India, a feature of the general elevation throughout the whole 24 hours period accompanying lighter and more intermittent rain than usual. In September the increased cloud which gave a slight diminution of temperature by day produced the opposite effect of slightly increased temperature by night. The following gives variation data for the whole period :—

Province or Division.	Variation of mean minimum temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Burma	+0·5	+0·2	+0·8	+0·4	+0·5
Assam	−0·9	−0·4	+0·4	−0·1	−0·3
Bengal	−0·2	−0·3	+0·6	+0·3	+0·1
Orissa	+0·2	+0·1	+0·5	+0·9	+0·4
Bihar	+0·9	−0·2	+1·0	−0·3	+0·4
Chota Nagpur	+2·2	+0·1	+1·3	+1·6	+1·3
United Provinces of Agra and Oudh.	+1·0	−0·7	+0·8	+0·2	+0·3
Punjab	−0·3	+0·2	+1·3	+0·8	+0·5
Sind	−0·5	+2·7	+1·2	+1·2	+1·2
Rajputana	+0·1	+2·2	+2·5	+1·1	+1·5
Gujarat	+0·9	+2·2	+1·2	+0·5	+1·2
Central India	+2·9	+1·4	+1·6	+0·6	+1·6
Central Provinces	+3·6	+0·3	+0·6	0	+1·1
Berar	+3·6	+1·1	+1·7	+0·9	+1·8
West Coast	+0·7	+0·6	+1·5	+0·3	+0·8
Bombay Deccan	+0·1	+0·7	+0·7	+1·1	+0·7
Mysore	+0·5	+0·7	+0·9	+0·3	+0·6
Madras Coast	+1·1	+0·6	+0·5	−0·4	+0·5
Madras Deccan	+0·6	+1·4	+1·8	+0·8	+1·2
South India	+1·0	+0·3	+0·8	+0·8	+0·7

The mean night temperature of the period was from 1° to 2° above the normal over the area, including Sind, Rajputana, Gujarat, Central India, the Central Provinces, Berar, Chota Nagpur and the Madras Deccan, *i.e.*, over a large part of the area dependent on the Bombay monsoon. The variations were large in amount in the Central Provinces and Berar in June. The following gives data for stations at which the excess was absolutely greatest :—

Station.	Mean minimum temperature		
	Actual, June.	Normal, June.	Variation of actual from normal, June.
	°	°	°
Raipur	83·1	78·4	+4·7
Sutna	85·7	81·1	+4·6
Sambalpur	85·0	80·7	+4·3
Nagpur	82·7	78·5	+4·2
Hoshangabad	83·1	79·0	+4·1

The mean temperature was generally in slight excess during the period in the region dependent on the Bay current *i.e.*, Burma, Bengal, Orissa, Chota Nagpur, Bihar and the United Provinces. The excess was most marked in June. It was very slight in July and moderate in August. The variations were irregular in September. The excess on the mean of the period was less than 1° over the whole area except Orissa (+1·°1) and Chota Nagpur (+1·°8) which areas are both to a slight extent dependent on the Bombay current. Temperature was throughout the period in slight defect in Assam. The following gives comparative data for this area of slight excess of temperature and also for Assam :—

Province or Division.	Variation of mean temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Burma	+0·7	+0·1	+1·0	0	+0·5
Assam	−1·2	−0·9	−0·1	−0·6	−0·7
Bengal	+0·1	−0·4	+1·0	+0·1	+0·2
Orissa	+1·8	+0·3	+1·3	+0·9	+1·1
Bihar	+1·4	+0·4	+1·4	−0·7	+0·6
Chota Nagpur	+3·6	+0·5	+1·7	+1·4	+1·8
United Provinces of Agra and Oudh.	+1·5	−0·3	+1·4	−0·5	+0·5

The mean temperature was more or less in excess over North-Western and Central India and the Deccan during the first three months of the period, and fell very slightly below it in September. The excess was most pronounced in June. The area of greatest excess in that month included Berar and the Central Provinces, where the excess averaged 5°. In July the area of greatest excess of temperature was transferred to Sind, Rajputana and Gujarat, where the mean daily temperature of the month average 3½° above the normal. In August the area of greatest excess lay over Rajputana, temperature falling relatively to the normal in the coast districts of Sind and Gujarat with the increasing influence of the monsoon winds in that month.

The following gives comparative data for these areas:—

Province or Division.	Variation of mean temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Punjab	−1·2	+0·2	+1·9	+0·1	+0·3
Sind	−1·4	+3·4	+2·6	+1·0	+1·3
Rajputana	+0·1	+3·5	+3·4	+0·2	+1·8
Gujarat	+1·3	+3·5	+2·0	−0·4	+1·6
Central India	+3·7	+2·4	+2·2	−0·4	+2·0
Central Provinces	+5·3	+1·6	+2·0	−0·2	+2·2
Berar	+4·9	+1·7	+2·7	+0·4	+2·4

The variations of the mean temperature conditions from the normal in the Peninsula south of Lat. 16° N. were similar to those obtaining in North-Western India, but generally smaller in amount.

The following gives data in illustration:—

Province or Division.	Variation of mean temperature from normal in				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
West Coast	+0·9	+0·3	+1·6	−0·1	+0·7
Bombay Deccan	+1·7	+1·3	+2·3	+0·7	+1·5
Mysore	+1·5	+0·7	+2·0	−0·2	+1·0
Madras Coast	+1·6	+0·5	+0·6	−0·4	+0·6
Madras Deccan	+1·4	+2·2	+2·8	+0·6	+1·8
South India	+1·4	+0·3	+0·7	+0·6	+0·8

A noteworthy feature of the period was that temperature was throughout the whole period generally below the normal over the Himalayan region and probably in Central Asia and the Persian region.

Station.	Variation from normal of mean temperature in				Mean of period.
	June.	July.	August.	September.	
	°	°	°	°	°
Kashgar	−1·9	−0·9	−0·5	+1·9	−0·4
Gilgit	−1·8	−2·4	−0·7	+1·3	−0·9
Leh	−3·8	−4·1	−3·8	−2·1	−3·5
Kailang	−0·1	−2·6	−2·6	0	−1·3
Srinagar	−0·9	−1·1	−1·2	+0·7	−0·6
Murree	−4·2	−2·4	−1·0	−2·3	−2·5
Simla	−1·7	−1·1	−0·2	−0·3	−0·8
Chakrata	−1·3	−1·4	−0·6	−1·0	−1·1
Darjeeling	−0·2	−0·1	+0·8	−0·1	+0·1

IV.—The retreating south-west monsoon period.—Over the greater part of India the variations of the temperature conditions were unusually persistent throughout the whole period. The following discusses these features.

(1) Temperature was throughout the period, both by day and night, below the normal generally over North-Eastern India and Upper and Central Burma. The deficiency was more marked in the night than the day temperature. The rains ceased earlier than usual in these areas in the month of October, and the air was drier and skies less clouded than usual, thus favouring nocturnal or terrestrial radiation. The decreased temperature by day suggests an influence from the hills to the north, due perhaps to early snowfall, but there is no direct evidence for this.

The following gives variation data:—

Area.	Variation from normal.							
	October, 1902.		November, 1902.		December, 1902.		Period, October to December, 1902.	
	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°	°	°	°	°	°	°
Central Burma	+0·3	−1·9	+0·3	−3·6	+0·8	−2·2	+0·5	−2·6	−1·1
Upper Burma	−1·8	−1·4	−0·6	−2·0	−2·6	−0·8	−1·7	−1·4	−1·6
Assam	−2·2	−2·9	−0·4	−2·8	−0·6	−2·7	−1·1	−2·8	−2·0
Bengal	−0·5	−0·9	+0·3	−1·1	−0·2	−1·1	−0·1	−1·0	−0·6
Bihar	−1·1	−0·4	−0·1	−0·7	−0·6	−1·7	−0·6	−0·9	−0·8
Chota Nagpur	+0·9	+1·3	+0·3	0	−1·1	+0·9	0	+0·7	+0·4

(2) The mean daily temperature was steadily in excess throughout the period in the Peninsula. This was solely due to high night temperatures as the day temperatures were below the normal of the period. These temperature conditions accompanied frequent general rain and the prevalence of larger amount of cloud than usual. The following gives comparative data:—

Area.	Variation from normal.							
	October, 1902.		November, 1902.		December, 1902.		Period, October to December, 1902.	
	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°	°	°	°	°	°	°
Gujarat	+0·2	+2·1	+1·0	+1·6	−1·3	+1·2	0	+1·6	+0·8
Central Provinces	+1·2	+0·4	−0·7	−1·3	−1·7	+1·9	−0·4	+0·3	0
Berar	+0·2	+2·3	−0·7	+0·3	−2·7	+3·7	−1·1	+2·1	+0·5
West Coast	+0·5	+1·1	+0·2	+1·9	−1·2	+3·3	−0·2	+2·1	+1·0
Bombay Deccan	+0·7	+2·9	−2·2	+1·0	−3·0	+5·0	−1·5	+3·0	+0·7
Mysore	+0·5	0	−0·7	+1·4	−0·2	+4·3	−0·1	+1·9	+0·9
Madras Coast	−0·6	−0·3	−0·8	+0·9	−0·7	+2·7	−0·7	+1·1	+0·2
Madras Deccan	+1·3	+1·0	−1·3	+0·8	−0·2	+4·5	−0·1	+2·1	+1·0
South India	−1·8	−0·3	−1·6	−0·7	−1·0	+1·9	−1·5	+0·3	−0·6

(3) In Central India and the Gangetic Plain the mean temperature was generally in slight defect, but the variations were small and of little importance. The following gives data:—

Area.	Variation from normal.							
	October, 1902.		November, 1902.		December, 1902.		Period, October to December, 1902.	
	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°	°	°	°	°	°	°
United Provinces of Agra and Oudh.	−0·9	+·07	+0·3	−0·5	−0·2	−2·0	−03	−0·6	−0·4
Central India	+0·1	+1·1	−1·7	+0·7	−1·9	+0·3	−1·2	+0·7	−0·2

(4) In Upper India and Baluchistan temperature was higher than usual as is generally the case before and during a drier and finer cold weather than usual. The following gives data in illustration:—

Area.	Variation from normal.								
	October, 1902.		November, 1902.		December, 1902.		Period, October to December, 1902.		
	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°	°	°	°	°	°	°
Baluchistan	+1·1	+2·3	+0·9	+4·1	+0·7	+1·0	+0·9	+2·5	+1·7
Punjab	−1·6	+3·7	+0·1	+3·5	−0·3	−1·9	−0·6	+1·8	+0·6
Sind	+0·6	+4·3	+3·4	+3·1	+1·5	+0·7	+1·8	+2·7	+2·3
Rajputana	−1·1	+3·0	+1·3	+0·7	−0·5	−0·6	−0·1	+1·0	+0·5

(5) At the hill stations in the Western Himalayas temperature was generally slightly lower than usual probably due to and indicating heavier snowfall than usual to the north in Kashmir, Gilgit, Chitral and the Pamirs. The following gives comparative data:—

Area.	Variation from normal.								
	October, 1902.		November, 1902.		December, 1902.		Period October to December, 1902.		
	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°	°	°	°	°	°	°
Kashgar	+5·9	+2·9	+2·8	+1·0	+4·4	+2·4	+4·4	+2·1	+3·3
Gilgit	+2·0	−0·5	−1·3	−0·5	0	−2·8	+0·2	−1·3	−0·6
Leh	−3·1	+1·7	−2·8	+0·3	−0·7	−4·1	−2·2	−0·7	−1·5
Kailang	+2·5	+0·6	−1·3	−2·8	+1·6	−2·6	+0·9	−1·6	−0·4
Srinagar	+1·0	+2·2	−3·4	+3·0	+3·5	−4·9	+0·4	+0·1	+0·3
Murree	−2·9	−4·1	−3·2	−2·4	−0·8	−1·8	−2·3	−2·8	−2·6
Simla	−2·2	−1·7	−1·1	−0·7	+1·5	+0·4	−0·	−0·7	−0·7
Chakrata	−3·1	−2·2	0	−0·3	+2·3	+1·0	−0·3	−0·5	−0·4
Ranikhet	−2·5	−1·6	−0·8	+0·5	−0·1	+0·3	−1·1	−0·3	−0·7

The year.—The following gives variation data for the mean temperature of Extra-Tropical and Tropical India and also for the whole of India, month by month, during the year:—

Month.	Variation from normal of mean daily temperature in		
	Extra-Tropical India from Table I.	Tropical India from Table II.	Whole India from Table II.
	°	°	°
January	+2·4	+1·6	+2·0
February	+3·4	+0·7	+2·1
March	+2·8	+1·7	+2·3
April	+0·2	+0·9	+0·5
May	+1·0	+1·4	+1·2
June	+0·2	+2·0	+1·0
July	+0·3	+1·2	+0·7
August	+1·0	+2·0	+1·5
September	+0·3	+0·6	+0·4
October	+0·3	+0·8	+0·5
November	+0·3	+0·3	+0·3
December	−0·4	+0·5	+0·2
Whole year	+1·0	+1·1	+1·1

Temperature was, on the average of the whole of India, in excess in every month by amounts averaging 1°·1.

The excess was most marked in Sind, the neighbouring districts of the Punjab and South-West Rajputana, as is shown by the following data:—

Station.	Variation form normal of		
	Maximum temperature.	Minimum temperature.	Mean temperature
	°	°	°
Deesa	+3·2	+2·3	+2·8
Kurrachee	+2·8	+2·3	+2·6
Jacobabad	+3·1	+1·9	+2·5
Mooltan	+2·4	+1·9	+2·2
Ahmedabad	+2·2	+1·7	+2·0

The mean temperature of the year was generally above the normal at the lower Himalayan stations. It was, on

the other hand, in slight defect at Leh in Ladakh. The following gives data in illustration :—

Station.	Variation from normal of		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Leh	−1·5	−0·4	−1·0
Srinagar	+3·1	−0·7	+1·2
Cherat	+1·8	+1·2	+1·5
Murree	0	−1·8	−0·9
Simla	+0·7	+0·3	+0·5
Chakrata	0	+0·4	+0·2
Ranikhet	+0·5	+0·5	+0·5
Darjeeling	+0·4	−0·3	+0·1

The following table gives the progressive variation of the mean actual temperature of the past 28 years :—

Year.	Number of stations.	Mean anomaly.	Progressive variation.
		°	°
1875	72	−0·29	...
1876	72	−0·08	+0·21
1877	74	+0·17	+0·25
1878	74	+0·62	+0·45
1879	70	−0·13	−0·75
1880	106	−0·13	+0·26
1881	110	−0·01	−0·14
1882	113	−0·11	−0·10
1883	122	−0·48	−0·37
1884	122	−0·61	−0·13
1885	118	−0·29	+0·32
1886	122	+0·08	+0·37
1887	126	−0·23	−0·31
1888	127	+0·36	+0·59
1889	81	+0·86	+0·50
1890	85	+0·13	+0·73
1891	72	−0·03	−0·16
1892	74	+0·66	+0·69
1893	68	−1·33	−1·99
1894	66	+0·11	+1·44
1895	69	+0·35	+0·24
1896	67	+1·30	+0·95
1897	75	+0·90	−0·40
1898	75	+0·65	−0·25
1899	52	+0·78	+0·13
1900	50	+1·17	+0·39
1901	50	+0·63	−0·54
1902	49	+1·06	+0·43

The above shows that the excessive temperatures which have prevailed since 1894 still continue.

Atmospheric Pressure.

Full information regarding the barometers in use at Indian observatories and of the methods of reducing the observations and obtaining the mean daily and monthly pressures will be found in the annual reports of previous years (*e.g.*, pages 58 and 59 of the report for 1890) and also in pages 7 and 8 of the monthly review for January, 1902.

In Table II of each monthly review the monthly mean daily pressure (corrected for temperature) is given in the seventh column and the variation from the normal in the eighth column. The normal monthly mean pressure values were recalculated for all first and second class stations in 1896, data up to 1896 being utilized, and will be found in Table VI of the Annual Summary for that year. The variation data in the monthly reviews for the year 1902 were obtained by a comparison of the actual monthly means with the corresponding normals published in the Annual Summary for 1896, and the variations of the monthly pressures of all first and second class stations in 1902 are given in Table XVIII. The figures in the seventh and eighth columns of Table II appended to the present Annual Summary, giving data of the mean pressure of the air and its variations from the normal for all first and second class stations, are comparable with the corresponding data of previous years published in the annual reports and summaries.

In the ninth column of Table II in each monthly review the mean pressures reduced to sea-level and corrected to constant gravity (Lat. 45°) are given. These it should be noted, are not comparable with the sea-level pressure values of the years 1875—90 as given in the annual reports for those years, for previous to 1891 no correction was made to reduce the monthly pressure means to standard gravity.

In Table I of each monthly review, and also in that appended to the Annual Summary, the pressure data are given for a fixed hour (*viz.*, 8 A.M. local time) of the day. The fifth column in those tables gives the mean 8 A.M. pressures for the month corrected for temperature. In the sixth column are given the variations of the mean 8 A.M. pressures from the normal mean 8 A.M. pressures.

The mean pressure data for the year 1902 will be found under the headings "Pressure" in Tables I and II appended to the present Annual Summary.

The following gives the normal mean monthly 8 A.M. pressure at 161 stations in India employed in determining the monthly variations of pressure from the normal given in Table I of the monthly reviews of the year 1902. These means have been determined from the 10 A.M. observations of the 11 years period 1878-88 (with correction to reduce them to their 8 A.M. equivalents) and the 8 A.M. observations of the 11 years 1889-1899. These means differ slightly from those given in the Annual Summary for 1894.

TABLE XVI.—*Normal mean monthly 8 A.M. pressures reduced to 32° F. of 161 stations in India, Burma, etc.*

STATION.	Elevation of bar-cistern above sea level in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Mergui	96	29·907	29·887	29·861	29·821	29·783	29·770	29·767	29·786	29·809	29·836	29·862	29·902	29·833
Tavoy	26	·995	·978	·947	·914	·866	·838	·839	·857	·887	·919	·964	·999	·917
Moulmein	94	·933	·893	·860	·817	·763	·722	·718	·738	·779	·835	·886	·942	·824
Rangoon	41	·994	·958	·920	·868	·805	·757	·756	·782	·823	·892	·945	·997	·875
Bassein	27	30·002	·962	·922	·869	·801	·749	·747	·774	·816	·893	·950	30·007	·874
Diamond Island.	41	29·987	·960	·924	·875	·798	·742	·746	·772	·812	·881	·932	29·986	·868
Akyab	20	30·034	·994	·945	·878	·793	·701	·689	·732	·798	·898	·970	30·031	·872
Toungoo	183	29·845	·800	·753	·703	·642	·591	·589	·615	·662	·743	·803	29·859	·717
Thayetmyo	130	·911	·853	·798	·736	·676	·616	·610	·643	·701	·789	·864	·927	·760
Lashio	...	27·221	27·179	27·135	27·113	27·053	26·992	26·979	26·989	27·076	27·173	27·237	27·255	27·117
Bhamo	381	29·660	29·594	29·536	29·472	29·408	29·327	29·308	29·345	29·436	29·546	29·651	29·710	29·499
Kindat	377	·703	·625	·544	·468	·387	·307	·286	·329	·425	·546	·665	·733	·502
Minbu	165	·887	·814	·754	·691	·623	·566	·554	·582	·666	·767	·867	·918	·724
Yamethin	657	·362	·302	·256	·201	·145	·093	·086	·108	·185	·278	·359	·398	·231
Mandalay	250	·783	·723	·661	·596	·544	·475	·459	·495	·574	·668	·756	·819	·629
Chittagong	87	·976	·930	·865	·791	·703	·597	·578	·627	·715	·828	·916	·976	·792
Silchar	104	·980	·933	·857	·777	·698	·587	·568	·618	·703	·825	·919	·981	·787
Barisal	13	30·057	30·000	·917	·833	·744	·634	·605	·652	·768	·900	·990	30·064	·847
Narayanganj	26	·042	29·988	·901	·811	·731	·614	·598	·647	·751	·883	·982	·046	·833
Mymensingh	59	·018	·956	·869	·780	·709	·602	·569	·622	·727	·865	·961	·030	·809
Saugor Island	25	·055	·991	·902	·803	·709	·583	·563	·621	·722	·880	·995	·066	·824
Calcutta	21	·065	30·003	·905	·802	·708	·586	·569	·624	·734	·888	30·004	·073	·830
Jessore	33	·045	29·985	·891	·795	·710	·589	·572	·625	·733	·880	29·985	·050	·822
Berhampore	67	·018	·954	·847	·740	·662	·545	·529	·586	·693	·849	·963	·030	·785
Bogra	61	29·993	·931	·829	·750	·663	·561	·534	·591	·700	·841	·946	·013	·779
Sibsagar	333	·769	·709	·626	·547	·471	·351	·332	·383	·480	·620	·730	29·785	·567
Dhubri	115	·964	·894	·800	·721	·656	·536	·509	·563	·669	·813	·919	·982	·752
Burdwan	99	·989	·923	·822	·711	·621	·508	·489	·547	·662	·816	·932	30·002	·752
Patna	183	·913	·836	·724	·607	·515	·403	·390	·450	·563	·733	·865	29·932	·661

TABLE XVI.—*Normal mean monthly 8 A.M. pressures reduced to 32° F. of 161 stations in India, Burma, etc.*—contd.

STATION.	Elevation of bar-cistern above sea-level in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Gaya	375	29·707	29·642	29·539	29·414	29·313	29·202	29·194	29·249	29·361	29·533	29·665	29·728	29·462
Benares	267	·814	·748	·643	·518	·412	·297	·287	·346	·464	·639	·770	·834	·564
Darjeeling	7,376	23·019	22·985	23·005	23·004	22·981	22·925	22·913	22·951	23·029	23·091	23·100	23·075	23·007
Jalpaiguri	284	29·789	29·725	29·627	29·548	29·480	29·368	29·330	29·388	29·493	29·644	29·750	29·814	29·580
Dinajpur	123	·941	·875	·772	·689	·612	·499	·474	·528	·640	·795	·901	·966	·725
Purnea	125	·954	·882	·778	·674	·607	·489	·469	·525	·632	·790	·909	·973	·724
Darbhanga	166	·913	·843	·732	·631	·549	·434	·416	·473	·585	·750	·872	·931	·677
Gorakhpur	256	·809	·739	·627	·515	·433	·315	·304	·361	·477	·644	·770	·830	·569
Bahraich	403	·650	·580	·474	·368	·269	·176	·154	·205	·324	·495	·623	675	·416
Bareilly	569	·477	·413	·314	·195	·102	28·990	28·979	·036	·151	·324	·444	·501	·244
Roorkee	887	·141	·081	28·991	28·880	28·784	·676	·666	28·724	28·841	·005	·119	·164	28·923
Umballa	892	·127	·060	·981	·873	·756	·667	·644	·694	·827	28·991	·113	·160	·908
Ludhiana	812	·226	·166	29·075	·955	·842	·726	·719	·777	·908	29·074	·194	·245	·992
Sialkot	830	·203	·148	·061	·939	·819	·699	·689	·753	·880	·051	·176	·227	·970
Rawalpindi	1,676	28·344	28·298	28·225	·124	·009	27·890	27·869	27·929	·066	28·231	28·339	28·384	·142
Ranikhet	6,069	24·133	24·100	24·107	24·089	24·046	23·964	23·943	23·979	24·062	24·154	24·180	24·168	24·077
Dehra Dun	2,233	27·762	27·712	27·651	27·572	27·493	27·393	27·376	27·424	27·531	27·678	27·765	27·793	27·596
Mussooree	6,705	23·576	23·545	23·554	23·555	23·514	23·440	23·405	23·439	23·522	23·596	23·633	23·620	23·533
Chakrata	7,022	·299	·268	·293	·290	·246	·172	·142	·178	·259	·340	·354	·338	·265
Simla	7,224	·112	·078	·105	·109	·072	·005	22·974	·009	·097	·177	·186	·165	·091
Murree	6,333	·864	·828	·847	·833	·797	·732	23·704	·743	·830	·919	·938	·917	·829
Srinagar	5,204	24·997	24·954	24·930	24·909	24·848	24·731	24·667	24·707	24·846	24·985	25·034	25·044	24·888
Leh	11,503	19·661	19·611	19·692	19·730	19·727	19·680	19·643	19·664	19·730	19·789	19·778	19·736	19·703
Allahabad	309	29·773	29·707	29·605	29·480	29·367	29·252	29·245	29·303	29·422	29·597	29·728	29·794	29·523
Lucknow	368	·699	·636	·529	·407	·305	·193	·183	·242	·362	·531	·662	·722	·456
Cawnpore	416	·648	·579	·478	·358	·245	·140	·121	·191	·310	·487	·612	·678	·404
Mainpuri	516	·543	·473	·376	·259	·143	·040	·027	·082	·210	·376	·506	·570	·300
Agra	555	·526	·466	·370	·242	·130	·015	28·999	·061	·186	·360	·490	·550	·283
Meerut	738	·308	·245	·150	·031	28·929	28·817	·803	28·865	28·983	·151	·271	·327	·073
Delhi	718	·336	·275	·180	·058	·951	·835	·822	·884	29·005	·176	·298	·357	·098
Lahore	702	·349	·297	·197	·066	·940	·820	·808	·873	·005	·182	·314	·373	·102
Cherat	...	25·769	25·729	25·714	25·673	25·593	25·508	25·482	25·522	25·643	25·753	25·815	25·824	25·669
Peshawar	1,110	28·977	28·929	28·845	28·733	28·591	28·441	28·414	28·479	28·632	28·820	28·942	28·997	28·733

TABLE XVI.—*Normal mean monthly 8 A.M. pressures reduced to 32° F. of 161 stations in India, Burma, etc.*—contd.

STATION.	Elevation of bar-cistern above sea-level in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Khushab	612	29·455	29·397	29·290	29·162	29·038	28·900	28·877	28·943	29·088	29·273	29·416	29·487	29·194
Dera Ismail Khan.	594	·507	·460	·357	·228	·084	·929	·912	·978	·120	·318	·465	·532	·241
Montgomery	558	·508	·446	·345	·211	·064	·945	·923	29·001	·142	·328	·474	·540	·244
Mooltan	420	·674	·620	·508	·372	·222	29·079	29·060	·132	·272	·470	·625	·697	·394
Sirsa	662	·394	·337	·240	·113	28·988	28·872	28·857	28·922	·055	·228	·357	·418	·148
Bikaner	771	·288	·224	·132	·013	·891	·776	·756	·822	28·961	·110	·246	·319	·045
Pachpadra	380	·698	·637	·555	·423	29·326	29·193	29·160	29·243	29·377	·535	·640	·712	·458
Kurrachee	30	30·081	30·028	·936	·820	·708	·563	·531	·608	·750	·903	30·024	30·094	·837
Hyderabad (Sind.)	96	·013	29·959	·847	·719	·593	·448	·415	·493	·633	·809	29·948	·031	·742
Jacobabad	186	29·918	·860	·740	·604	·458	·313	·288	·366	·515	·711	·861	29·937	·631
Quetta	5,502	24·687	24·660	24·653	24·632	24·584	24·480	24·426	24·479	24·603	24·728	24·769	24·746	24·621
Chaman	4,311	25·772	25·723	25·716	25·696	25·631	25·488	25·439	25·487	25·648	25·799	25·838	25·825	25·672
Colombo	40	29·950	29·948	29·926	29·881	29·856	29·860	29·875	29·885	29·910	29·916	29·917	29·933	29·905
Trivandrum	198	·772	·764	·737	·695	·687	·674	·694	·706	·730	·740	·755	·775	·727
Cochin	10	·991	·981	·951	·901	·874	·871	·895	·907	·931	·934	·949	·974	·930
Calicut	27	·984	·969	·935	·882	·854	·838	·865	·880	·907	·915	·934	·969	·911
Mangalore	65	·954	·937	·901	·845	·816	·783	·807	·833	·866	·878	·902	·941	·872
Mercara	3,781	26·293	26·285	26·266	26·234	26·199	26·158	26·167	26·181	26·211	26·236	26·257	26·286	26·231
Karwar	44	29·979	29·958	29·915	29·860	29·821	29·766	29·786	29·819	29·861	29·886	29·926	29·971	29·879
Goa	199	·838	·812	·767	·714	·672	·606	·620	·655	·708	·735	·783	·832	·729
Mormugao	60	·959	·933	·889	·840	·811	·735	·751	·796	·845	·872	·925	·968	·860
Ratnagiri	110	·909	·882	·840	·781	·743	·660	·667	·709	·763	·804	·858	·906	·794
Bombay	37	30·011	·981	·931	·867	·822	·709	·702	·757	·834	·898	·962	30·011	·874
Surat	39	·023	·989	·932	·851	·787	·660	·633	·699	·800	·897	·976	·027	·856
Bhavnagar Para.	55	·041	·991	·927	·840	·785	·653	·622	·712	·803	·906	·995	·047	·860
Veraval	8	·041	30·003	·935	·858	·809	·660	·638	·724	·822	·913	·993	·046	·870
Rajkot	429	29·630	29·596	·528	·446	·359	·228	·198	·274	·384	·503	·585	29·638	·447
Bhuj	395	·677	·632	·554	·456	·360	·233	·197	·270	·397	·528	·628	·685	·468
Ahmedabad	163	·908	·855	·791	·695	·637	·495	·474	·543	·664	·773	·865	·919	·718
Deesa	466	·596	·553	·480	·388	·303	·180	·136	·211	·335	·459	·562	·612	·401
Tinnevelly	168	·871	·834	·784	·721	·682	·655	·671	·686	·717	·754	·809	·855	·753
Madura	447	·584	·564	·518	·444	·384	·356	·374	·391	·421	·464	·510	·559	·464

TABLE XVI.—*Normal mean monthly 8 A.M. pressures reduced to 32° F. of 161 stations in India, Burma, etc.*—contd.

STATION.	Elevation of bar-cistern above sea-level in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Trichinopoly	255	29·788	29·769	29·719	29·644	29·578	29·551	29·569	29·587	29·621	29·664	29·713	29·766	29·664
Coimbatore	1,348	28·683	28·663	28·622	28·557	28·506	28·475	28·491	28·509	28·541	28·578	28·617	28·664	28·576
Salem	940	29·126	29·102	29·054	·986	·929	·900	·916	·934	·968	29·007	29·048	29·104	29·006
Wellington	6,200	24·302	24·301	24·296	24·267	24·234	24·184	24·184	24·198	24·232	24·262	24·279	24·302	24·253
Mysore	2,518	27·522	27·492	27·463	27·424	27·395	27·345	27·365	27·384	27·416	27·444	27·486	27·520	27·438
Bangalore	3,021	·038	·016	26·986	26·942	26·896	26·850	26·862	26·883	26·919	26·956	26·991	·030	26·947
Hassan	3,091	26·959	26·941	·914	·874	·845	·785	·802	·827	·858	·890	·935	26·963	·883
Chitaldroog	2,405	27·619	27·590	27·556	27·512	27·476	27·406	27·422	27·449	27·495	27·538	27·595	27·627	27·524
Cuddapah	433	29·618	29·563	29·497	29·435	29·378	29·332	29·346	29·381	29·423	29·482	29·564	29·626	29·470
Kurnool	924	·118	·064	·000	28·942	28·888	28·832	28·842	28·878	28·920	28·990	·072	·130	28·973
Bellary	1,475	28·555	28·515	28·460	·399	·351	·299	·308	·341	·385	·443	28·510	28·560	·427
Raichur	1,326	·697	·641	·590	·530	·487	·423	·438	·470	·519	·585	·666	·711	·563
Hyderabad (Deccan.)	1,690	·346	·287	·238	·179	·110	·038	·042	·079	·140	·229	·317	·367	·198
Gulbarga	1,502	·531	·480	·429	·370	·320	·249	·249	·286	·344	·427	·506	·561	·396
Belgaum	2,539	27·475	27·450	27·416	27·365	27·322	27·254	27·254	27·289	27·339	27·391	27·439	27·475	27·372
Bijapur	1,946	28·078	28·030	·989	·936	·898	·814	·823	·860	·917	·982	28·056	28·098	·957
Sholapur	1,590	·446	·407	28·350	28·285	28·231	28·165	28·161	28·200	28·261	28·339	·406	·456	28·309
Poona	1,840	·196	·165	·119	·062	·012	27·911	27·901	27·949	·023	·103	·169	·210	·068
Ahmednagar	2,152	27·879	27·838	27·794	27·746	27·693	·596	·583	·639	27·706	27·800	27·869	27·906	27·754
Malegaon	1,430	28·615	28·572	28·520	28·446	28·380	28·275	28·254	28·312	28·394	28·508	28·586	28·630	28·458
Buldana	2,132	27·905	27·872	27·818	27·744	27·674	27·578	27·563	27·617	27·691	27·804	27·879	27·922	27·756
Chikalda	3,642	26·462	26·430	26·396	26·339	26·266	26·156	26·128	26·173	26·257	26·382	26·446	26·479	26·326
Akola	930	29·119	29·065	29·000	28·914	28·834	28·745	28·737	28·789	28·870	28·998	29·090	29·142	28·942
Amraoti	1,215	28·822	28·766	28·707	·622	·538	·453	·441	·489	·569	·706	28·800	28·848	·647
Khandwa	1,044	29·001	·955	·890	·800	·721	·621	·602	·659	·749	·879	·975	29·021	·823
Nagpur	1,025	·021	·965	·896	·802	·703	·617	·608	·656	·739	·886	·988	·042	·827
Indore	1,823	28·206	·168	·111	·032	27·952	27·846	27·819	27·877	27·973	·108	·189	28·226	·042
Neemuch	1,630	·410	·366	·305	·215	28·126	28·019	·987	28·050	28·158	·305	·398	·438	·231
Mount Abu	3,945	26·138	26·110	26·092	26·053	25·980	25·860	25·816	25·866	25·983	26·112	26·163	26·168	26·028
Ajmer	1,611	28·442	28·395	28·328	28·231	28·127	28·014	27·982	28·045	28·167	28·325	28·429	28·471	28·246
Sambhar	1,254	·787	·734	·659	·557	·448	·333	28·308	·372	·499	·658	·768	·817	·578
Jaipur	1,431	·615	·566	·494	·395	·292	·175	·150	·215	·343	·498	·601	·648	·416
Saugor	1,807	·230	·175	·118	·031	27·935	27·824	27·802	27·857	27·962	·117	·209	·253	·043

TABLE XVI.—*Normal mean monthly 8 A.M. pressures reduced to 32° F. of 161 stations in India, Burma, etc.*—concld.

STATION.	Elevation of bar-cistern above sea-level in feet.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Sutna . .	1,040	29·012	28·955	28·876	28·761	28·650	28·536	28·525	28·582	28·695	28·868	28·982	29·037	28·790
Nowgong .	757	·316	29·256	29·166	29·048	·935	·826	·811	·870	·985	29·156	29·277	·338	29·082
Jhansi .	858	·214	·160	·077	28·958	·845	·731	·713	·771	·890	·058	·177	·237	28·986
Hoshangabad	1,006	·051	·002	28·932	·836	·746	·641	·622	·678	·776	28·930	·029	·079	·860
Pachmarhi .	3,528	26·557	26·521	26·495	26·444	26·367	26·254	26·219	26·276	26·363	26·492	26·553	26·579	26·427
Jubbulpore .	1,327	28·717	28·664	28·595	28·497	28·395	28·287	28·271	28·322	28·426	28·589	28·691	28·742	28·516
Seoni . .	2,033	·002	27·957	27·902	27·823	27·731	27·624	27·607	27·652	27·744	27·895	27·983	·025	27·829
Chanda .	634	29·422	29·364	29·288	29·199	29·101	29·023	29·023	29·072	29·147	29·282	29·382	29·442	29·229
Raipur .	970	·080	·025	28·950	28·852	28·747	28·651	28·642	28·689	28·781	28·942	·044	·101	28·875
Sambalpur .	486	·588	·528	29·442	29·340	29·232	29·129	29·120	29·170	29·274	29·432	·548	·610	29·368
Chaibassa .	760	·292	·231	·144	·042	28·940	28·831	28·811	28·860	28·977	·143	·247	·311	·069
Ranchi .	2,128	27·883	27·837	27·776	27·699	27·607	27·498	27·472	27·519	27·629	27·784	27·866	27·908	27·707
Hazaribagh .	2,007	28·009	·960	·895	·808	·718	·607	·594	·641	·747	897	·990	28·028	·825
Balasore .	48	30·039	29·973	29·876	29·774	29·672	29·560	29·536	29·588	29·703	29·873	29·988	30·061	29·803
False Point .	21	·061	30·001	·916	·822	·716	·601	·587	·634	·726	·886	30·000	·072	·835
Cuttack .	80	·002	29·937	·852	·753	·646	·532	·521	·569	·661	·825	29·942	·012	·771
Gopalpur .	21	·058	·993	·914	·825	·711	·615	·598	·640	·739	·892	30·010	·080	·840
Waltair .	226	29·851	·798	·731	·647	·537	·429	·429	·470	·541	·678	29·776	29·846	·644
Cocanada .	26	30·049	·997	·934	·863	·749	·666	·657	·693	·762	·879	·980	30·050	·857
Masulipatam	15	·057	30·009	·947	·867	·756	·691	·702	·734	·786	·888	·980	·050	·872
Nellore .	71	29·986	29·933	·867	·796	·703	·658	·674	·707	·751	·830	·919	29·986	·818
Madras .	22	30·041	30·005	·952	·877	·784	·746	·766	·790	·827	·894	·957	30·018	·888
Cuddalore .	12	·032	·001	·941	·880	·795	·765	·785	·809	·844	·898	·964	·022	·895
Negapatam .	31	·002	29·981	·938	·868	·794	·767	·786	·806	·840	·883	·928	29·977	·881
Pamban .	37	29·987	·962	·916	·858	·805	·778	·797	·813	·847	·881	·928	·972	·879
Trincomalee .	12	·986	·974	·933	·871	·812	·795	·812	·832	·854	·891	·930	·965	·888
Port Blair .	61	·936	·927	·902	·853	·792	·757	·768	·785	·818	·856	·883	·920	·850
Amini Devi .	13	30·005	·983	·955	·895	·881	·835	·868	·891	·926	·930	·961	·996	·927
Perim . .	201	29·830	·788	·736	·688	·631	·537	·525	·540	·608	·734	·802	·842	·688
Aden . .	94	·982	·947	·897	·841	·768	·647	·620	·650	·737	·873	·951	·995	·826
Muscat	20	30·121	30·054	·971	·869	·734	·553	·516	·593	·755	·950	30·063	30·117	·858
Jask . .	...	·127	·052	·988	·882	·751	·567	·530	·608	·748	·936	·073	·124	·866
Bushire .	14	·134	·076	·987	·891	·767	·574	·481	·544	·729	·945	·074	·134	·861
Zanzibar .	73	29·911	29·908	·905	·936	30·007	30·076	30·098	30·086	30·065	30·014	29·962	29·929	·991

In the following table the normal 8 A.M. pressure reduced to sea-level and corrected to constant gravity at Latitude 45° is given for each month of the year for 144 stations in India and Burma.

TABLE XVII.—*Normal mean monthly 8 A. M. pressure (reduced to sea-level and constant gravity at Latitude 45°) of 144 stations in India, Burma, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+
Mergui	·936	·916	·890	·849	·811	·798	·795	·815	·838	·865	·891	·931	·861
Tavoy	·952	·935	·904	·871	·823	·795	·796	·814	·844	·876	·921	·956	·874
Moulmein	·968	·927	·893	·849	·795	·754	·750	·770	·812	·868	·919	·976	·857
Rangoon	·973	·937	·899	·846	·783	·735	·734	·760	·801	·870	·923	·976	·853
Bassein	·965	·925	·885	·831	·763	·711	·710	·737	·779	·856	·913	·970	·837
Diamond Island	·963	·936	·900	·851	·774	·718	·722	·748	·788	·857	·908	·962	·844
Akyab	·998	·957	·908	·841	·756	·664	·652	·695	·761	·861	·933	·994	·835
Taungoo	·980	·933	·881	·828	·767	·716	·715	·742	·788	·869	·933	·992	·845
Thayetmyo	·990	·929	·872	·807	·747	·688	·682	·715	·773	·862	·938	1·003	·834
Bhamo	1·022	·951	·886	·813	·745	·663	·645	·682	·775	·888	1·003	1·070	·845
Kindat	1·060	·979	·890	·804	·718	·638	·615	·661	·758	·883	1·012	1·087	·842
Minbu	1·003	·928	·864	·798	·731	·674	·662	·690	·775	·876	·979	1·032	·834
Yamethin	1·000	·931	·872	·805	·750	·699	·693	·717	·794	·890	·982	1·032	·847
Mandalay	·996	·932	·863	·794	·741	·672	·656	·694	·774	·869	·962	1·030	·832
Chittagong	1·016	·969	·902	·827	·738	·632	·613	·662	·750	·864	·954	1·015	·829
Silchar	1·043	·995	·917	·834	·755	·643	·623	·674	·759	·883	·979	1·043	·846
Barisal	1·016	·959	·875	·791	·702	·592	·563	·610	·726	·858	·949	1·023	·805
Narayanganj	1·018	·963	·876	·785	·705	·588	·572	·621	·725	·857	·957	1·021	·807
Mymensingh	1·036	·974	·885	·795	·724	·616	·583	·636	·742	·880	·977	1·048	·825
Saugor Island	1·025	·961	·872	·772	·678	·552	·532	·590	·691	·849	·965	1·036	·794
Calcutta	1·033	·970	·872	·769	·675	·553	·536	·591	·701	·855	·971	1·041	·797
Jessore	1·026	·966	·872	·775	·690	·569	·552	·605	·713	·860	·966	1·031	·802
Berhampore	1·037	·973	·864	·756	·677	·560	·544	·601	·708	·865	·980	1·049	·801
Bogra	1·010	·948	·844	·764	·676	·574	·547	·604	·714	·855	·961	1·030	·794
Sibsagar	1·083	1·020	·929	·844	·763	·640	·621	·672	·771	·917	1·036	1·098	·866
Dhubri	1·042	·971	·874	·792	·727	·606	·578	·632	·739	·885	·994	1·059	·825
Burdwan	1·042	·974	·871	·758	·667	·553	·535	·593	·709	·864	·982	1.055	·800
Patna	1·060	·982	·865	·743	·649	·537	·524	·585	·698	·870	1·008	1·080	·800
Gaya	1·061	·991	·877	·741	·637	·527	·521	·577	·691	·870	1·011	1·082	·799
Benares	1·057	·987	·874	·741	·631	·515	·507	·567	·686	·867	1·006	1·077	·793

TABLE XVII.—*Normal mean monthly 8 A. M. pressure (reduced to sea-level and constant gravity at Latitude 45°) of 144 stations in India, Burma, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	" 29+	" 29+	" 29+	" 29+	" 29+	" 29+	" 29+	" 29+	" 29+	" 29+	" 29+	" 29+	" 29+
Jalpaiguri	1·050	·983	·879	·794	·724	·609	·571	·629	·736	·891	1·003	1·074	·829
Dinajpur	1·027	·960	·854	·768	·690	·576	·551	·605	·718	·875	·983	1·052	·805
Purnea	1·044	·969	·861	·754	·687	·568	·547	·603	·712	·871	·993	1·061	·806
Darbhanga	1·045	·973	·857	·753	·668	·552	·535	·592	·706	·874	·999	1·062	·801
Gorakhpur	1·043	·969	·849	·730	·646	·527	·516	·575	·692	·863	·996	1·062	·789
Bahraich	1·046	·969	·852	·732	·628	·535	·514	·567	·688	·867	1·005	1·068	·789
Bareilly	1·055	·983	·868	·731	·628	·515	·507	·566	·684	·871	1·006	1·079	·791
Roorkee	1·071	·999	·883	·741	·627	·516	·512	·574	·699	·887	1·027	1·093	·802
Umballa	1·061	·983	·878	·744	·604	·512	·495	·547	·690	·878	1·027	1·094	·793
Ludhiana	1·076	1·005	·890	·742	·611	·490	·488	·551	·690	·878	1·023	1·094	·795
Sialkot	1·076	1·011	·899	·749	·606	·479	·477	·547	·682	·876	1·026	1·100	·794
Rawalpindi	1·134	1·066	·950	·800	·640	·502	·489	·559	·719	·932	1·091	1·173	·838
Dehra Dun	1·085	1·013	·897	·766	·650	·544	·536	·593	·714	·902	1·038	1·109	·821
Allahabad	1·060	·989	·878	·743	·625	·511	·506	·566	·686	·866	1·006	1·080	·793
Lucknow	1·054	·986	·866	·734	·627	·514	·507	·567	·689	·865	1·008	1·077	·791
Cawnpore	1·051	·976	·861	·728	·608	·503	·487	·559	·680	·866	1·003	1·080	·784
Mainpuri	1·059	·981	·869	·735	·609	·505	·496	·554	·685	·864	1·009	1·084	·788
Agra	1·084	1·017	·904	·758	·635	·518	·507	·573	·702	·887	1·033	1·107	·810
Meerut	1·075	1·001	·882	·738	·623	·509	·498	·564	·688	·877	1·019	1·093	·797
Delhi	1·074	1·003	·887	·743	·622	·503	·495	·560	·687	·874	1·017	1·092	·796
Lahore	1·086	1·023	·900	·747	·604	·476	·467	·537	·676	·875	1·030	1·109	·794
Peshawar	1·169	1·108	·992	·847	·674	·508	·484	·556	·727	·949	1·107	1·188	·859
Khushab	1·096	1·029	·900	·750	·610	·468	·447	·518	·670	·872	1·038	1·128	·794
D. I. Khan	1·103	1·047	·926	·778	·618	·456	·441	·510	·661	·877	1·045	1·129	·799
Montgomery	1·084	1·013	·893	·738	·578	·454	·435	·517	·663	·865	1·031	1·114	·782
Mooltan	1·102	1·039	·913	·765	·604	·457	·440	·514	·659	·872	1·040	1·123	·794
Sirsa	1·082	1·013	·896	·745	·603	·483	·472	·541	·682	·872	1·023	1·103	·793
Bikaner	1·085	1·011	·894	·752	·615	·495	·480	·552	·697	·861	1·017	1·113	·798
Pachpadra	1·068	1·001	·905	·760	·659	·523	·493	·578	·715	·880	·997	1·079	·805
Kurrachee	1·063	1·010	·918	·801	·689	·543	·512	·589	·731	·884	1·006	1·076	·819
Hyderabad (Sind)	1·069	1·014	·899	·768	·641	·495	·462	·541	·682	·860	1·001	1·086	·793
Jacobabad	1·082	1·021	·894	·752	·601	·454	·430	·510	·661	·862	1·018	1·100	·782
Colombo	·916	·914	·892	·847	·822	·826	·841	·851	·876	·882	·883	·899	·871

TABLE XVII.—*Normal mean monthly 8 A.M. pressure (reduced to sea-level and constant gravity at Latitude 45°) of 144 stations in India, Burma, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+
Trivandrum . .	·903	·895	·866	·824	·816	·804	·825	·836	·860	·870	·885	·906	·858
Cochin . .	.929	·919	·889	·839	·812	·809	·833	·845	·869	·872	·887	·912	·868
Calicut . .	·941	·926	·892	·839	·811	·795	·822	·837	·864	·872	·891	·926	·868
Mangalore . .	·952	·935	·898	·842	·813	·781	·805	.831	·864	·876	·900	·939	·870
Karwar . .	·956	·935	.891	·836	·797	·742	·762	·795	·837	·862	·903	·948	·855
Goa . . .	·978	·952	·904	·849	·806	·742	·756	·792	·844	·871	·920	·971	·865
Mormugao . .	·955	·929	·884	·835	·806	·730	·746	·791	·840	·867	·920	·964	·856
Ratnagiri . .	·960	·933	·889	·829	·791	·708	·715	·757	·811	·853	·907	·956	·842
Bombay . .	·989	·959	·908	·844	·799	·686	·679	·734	·811	.875	·939	·989	·851
Surat . . .	1·007	·973	·914	·833	·768	·642	·615	·681	·782	·879	·959	1·010	·839
Bhavnagar Para .	1·044	·994	·930	·842	·786	·654	·624	·714	·805	·908	·998	1·050	·862
Veraval . .	1·001	·963	·895	·818	·769	·620	·598	·684	·782	·873	·953	1·006	·830
Rajkot . .	1·036	·998	·920	·830	·737	·605	·578	·656	·768	·889	·978	1·040	·836
Bhuj . . .	1·049	·999	·911	·805	·704	·576	·543	·619	·747	·879	·987	1.054	·823
Ahmedabad . .	1·029	·974	·906	·806	·747	·604	·584	·654	·776	·885	·981	1·038	·832
Deesa . . .	1·048	·999	·912	·808	·721	·596	·555	·634	·759	·886	1·000	1·060	·832
Tinnevelly . .	·971	·934	·883	·819	·778	·751	·768	·783	·814	·853	·909	·955	·852
Madura . .	·977	·954	·904	·826	·764	·735	·755	·775	·804	·850	·898	·950	·849
Trichinopoly .	·983	·962	·909	·831	·764	·737	·756	·775	·809	·854	·904	·960	·854
Coimbatore .	1·005	·978	·925	·850	.795	·767	·789	·807	·842	·880	·926	·981	·879
Salem . . .	1·029	·998	·940	·862	·803	·777	·798	·817	·853	·894	·940	1·004	·893
Mysore . .	1·002	·952	·902	·848	·817	·778	·807	·828	·865	·892	·943	·998	·886
Bangalore . .	1·022	·970	·905	·839	·792	·762	·787	·813	·851	·885	·939	1·007	·881
Hassan . .	1·004	·965	·909	·852	·826	·777	·806	·833	·865	·896	·954	1·004	·891
Chitaldroog . .	·978	·927	·869	·820	·788	·726	·754	·785	·835	·870	·944	·992	·857
Cuddapah . .	1·003	.942	·869	·802	·743	·700	·717	·754	·797	·856	·944	1·010	·845
Kurnool . .	1·017	·950	·869	·800	·741	·692	·708	·748	·792	·863	·959	1·028	·847
Bellary . .	1·014	·955	·880	·805	·756	·711	·725	·763	·811	·871	·954	1·018	·855
Raichur . .	1·009	·937	·868	·793	·747	·693	·716	·752	·804	·868	·965	1·023	·848
Hyderabad (Deccan)	1·040	·957	·882	·798	·715	·661	·676	·720	·783	·877	·991	1·062	·841
Gulbarga . .	1·027	·955	·880	·805	·750	·694	·702	·742	·803	·887	·984	1·058	·857
Belgaum . .	·993	·950	·888	·822	·776	·718	·731	·771	1·825	·871	·934	·987	·856
Bijapur . .	1·015	·944	·875	·803	·764	·692	·710	·753	·815	·879	·974	1·036	·855

TABLE XVII.—*Normal mean monthly 8 A.M. pressure (reduced to sea-level and constant gravity at Latitude 45°) of 144 stations in India, Burma, etc.*—contd.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+
Sholapur	1·029	·975	·892	·805	·753	·693	·696	·742	·809	·885	·970	1·037	·857
Poona	1·054	1·007	·926	·839	·784	·686	·686	·742	·820	·904	·996	1·061	·875
Ahmednagar	1·046	·982	·893	·811	·754	·670	·668	·733	·807	·901	1·000	1·066	·861
Malegaon	1·065	1·005	·919	·814	·742	·645	·631	·697	·784	·903	1·007	1·073	·857
Buldana	1·041	·999	·902	·790	·712	·623	·624	·693	·774	·848	·993	1·060	·839
Akola	1·046	·980	·893	·783	·696	·614	·614	·672	·755	·892	1·002	1·067	·835
Amraoti	1·039	·971	·888	·779	·684	·612	·611	·665	·746	·887	1·000	1·063	·829
Khandwa	1·058	·999	·909	·793	·708	·613	·601	·664	·757	·896	1·013	1·074	·840
Nagpur	1·048	·979	·889	·771	·657	·584	·586	·638	·722	·879	1·000	1·068	·818
Indore	1·070	1·011	·910	·786	·695	·597	·585	·654	·755	·898	1·010	1·079	·838
Neemuch	1·089	1·023	·920	·786	·687	·583	·564	·637	·750	·908	1·034	1·107	·841
Ajmer	1·132	1·058	·943	·798	·674	·557	·540	·613	·743	·930	1·079	1·154	·852
Sambhar	1·096	1·025	·913	·772	·643	·524	·509	·581	·715	·898	1·042	1·119	·820
Jaipur	1·102	1·033	·920	·780	·660	·537	·525	·599	·734	·909	1·047	1·128	·831
Saugor	1·077	1·003	·903	·769	·651	·550	·549	·614	·724	·895	1·017	1·093	·820
Sutna	1·081	1·008	·901	·754	·626	·517	·519	·580	·697	·887	1·026	1·103	·808
Nowgong	1·086	1·014	·902	·760	·632	·525	·520	·583	·701	·887	1·027	1·105	·812
Jhansi	1·084	1·018	·909	·765	·638	·527	·519	·582	·704	·884	1·023	1·102	·813
Hoshangabad	1·077	1·014	·920	·796	·692	·594	·587	·648	·749	·917	1·036	1·102	·844
Jubbulpore	1·079	1·008	·908	·772	·649	·549	·549	·606	·714	·899	1·031	1·105	·822
Seoni	1·066	·997	·898	·772	·650	·564	·570	·624	·719	·888	1·013	1·088	·821
Chanda	1·032	·965	·876	·772	·664	·593	·601	·633	·729	·870	·983	1·053	·816
Raipur	1·048	·980	·884	·761	·643	·558	·560	·611	·703	·876	·997	1·070	·808
Sambalpur	1·050	·982	·886	·773	·658	·558	·554	·605	·709	·874	1·001	1·072	·810
Chaibassa	1·045	·973	·868	·749	·639	·533	·517	·568	·688	·864	·985	1·065	·791
Ranchi	1·053	·986	·869	·751	·640	·542	·529	·582	·699	·877	·996	1·076	·800
Hazaribagh	1·062	·992	·875	·741	·637	·534	·535	·589	·702	·872	1·003	1·078	·802
Balasore	1·035	·967	869	·767	·663	·552	·528	·580	·696	·866	·982	1·057	·797
False Point	1·025	·964	·879	·785	·678	·564	·550	·597	·689	·849	·963	1·035	·798
Cuttack	1·028	·962	·876	·775	·668	·554	·544	·592	·683	·849	·967	1·038	·795
Gopalpur	1·019	·954	·875	·786	·672	·576	·559	·601	·700	·853	·971	1·041	·801
Waltair	1·024	·969	·900	·814	·702	·594	·594	·636	·708	·846	·946	1·018	·813
Cocanada	1·010	·958	·895	·824	·710	·621	·618	·654	·723	·840	·941	1·011	·817

TABLE XVII.—*Normal mean monthly 8 A.M. pressure (reduced to sea-level and constant gravity at Latitude 45°) of 144 stations in India, Burma etc.*—concld.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+
Masulipatam .	·007	·959	·897	·816	·705	·640	·652	·684	·736	·838	·930	1·000	·822
Nellore . .	·992	·938	·872	·800	·707	·661	·678	·712	·756	·835	·924	·992	·822
Madras . .	·994	·958	·905	·830	·736	·698	·719	·743	·780	·847	·910	·971	·841
Cuddalore . .	·974	·942	·882	·821	·736	·706	·726	·750	·785	·839	·905	·964	·836
Negapatam . .	·962	·941	·898	·827	·753	·726	·746	·766	·800	·843	·888	·937	·841
Pamban . .	·951	·926	·880	·822	·769	·742	·761	·777	·811	·845	·892	·936	·843
Trincomalee . .	·924	·912	·871	·809	·750	·733	·750	·770	·792	·829	·868	·903	·826
Port Blair . .	·928	·919	·894	·845	·784	·749	·760	·777	·810	·848	·875	·912	·842
Amini Devi . .	·946	·924	·896	·836	·822	·776	·809	·832	·867	·871	·902	·937	·868
Perim . .	·968	·925	·872	·822	·764	·668	·656	·671	·741	·867	·938	·979	·823
Aden . .	1·010	·974	·924	·867	·793	·671	·644	·675	·761	·898	·978	1·022	·851
Muscat . .	1·089	1·022	·939	·837	·701	·520	·483	·560	·722	·918	1·036	1·085	·826
Jask . . .	1·097	1·022	·958	·852	·721	·537	·509	·578	·718	·906	1·043	1·094	·836
Bushire . .	1·107	1·049	·960	·864	·740	·547	·454	·517	·702	·918	1·047	1·107	·834
Zanzibar . .	·911	·908	·905	·936	1·007	1·076	1·099	1·087	1·065	1·014	·962	·929	·992

TABLE XVIII.—*Comparison of monthly mean pressures in 1902 with the averages of past years.*

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
BURMA COAST AND BAY ISLANDS.	Port Blair . .	—·005	+·082	—·002	+·014	+·028	+·021	+·013	+·001	+·032	+·072	+·044	—·009	+·024
	Rangoon . .	?	?	—·035	—·008	—·013	—·029	—·009	—·034	—·004	+·052	×·031	—·041	?
	Diamond Island .	—·029	+·066	—·021	+·007	—·002	—·006	—·093	—·022	+·008	+·060	+·031	—·037	+·004
	Akyab . . .	—·029	+·084	—·012	+·016	+·001	—·012	—·015	—·012	+·010	+·082	+·036	—·035	+·010
BENGAL AND ORISSA	Chittagong . .	—·029	+·072	—·014	+·013	+·008	—·002	—·027	—·015	—·008	+·080	+·046	—·024	+·008
	Calcutta (Alipore) .	—·016	+·096	—·017	+·011	+·021	+·027	—·009	+·019	+·007	+·098	+·040	—·020	+·021
	Saugor Island . .	—·006	+·094	—·016	+·012	+·010	+·020	—·013	+·015	+·002	+·096	+·042	—·022	+·019
	False Point . .	—·016	+·088	—·023	+·002	—·001	+·009	—·016	—·005	—·001	+·093	+·036	—·029	+·011
GANGETIC PLAIN AND CHOTA NAGPUR.	Hazaribagh . .	—·009	+·091	—·023	—·015	—·007	+·014	—·027	+·013	—·003	+·081	+·026	—·029	+·009
	Darbhanga . .	—·024	+·070	—·026	+·016	—·002	+·001	—·025	+·009	—·008	+·081	+·035	—·029	+·008
	Allahabad . .	—·034	+·067	—·047	—·028	—·005	+·032	—·021	+·028	+·011	+·091	+·047	—·004	+·011
UPPER SUB-HIMALAYAS.	Dehra Dun . .	—·004	+·080	—·023	—·011	—·013	—·001	—·024	+·004	—·012	+·062	+·027	—·028	+·005
	Roorkee . . .	—·014	+·075	—·036	—·014	—·012	+·012	—·018	+·001	—·011	+·061	+·024	—·032	+·003
	Meerut . . .	—·030	+·064	—·037	—·021	—·013	+·025	—·024	—·010	—·016	+·063	+·020	—·031	—·001
	Lahore . . .	—·024	+·067	—·018	—·021	—·014	+·031	—·024	+·006	—·003	+·064	+·022	—·022	+·005
	Ludhiana . . .	—·014	+·078	—·018	—·011	—·007	+·029	—·020	+·048	—·003	+·069	+·031	—·029	+·010

TABLE XVIII.—*Comparison of monthly mean pressures in 1902 with the averages of past years*—contd.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
NORTH-WEST FRONTIER, INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Peshawar	—·045	+·059	—·026	—·017	—·020	+·009	—·017	+·009	—·014	+·053	+·034	—·031	—·001
	Jacobabad	—·029	+·061	—·032	—·028	—·019	+·036	—·034	+·001	—·012	+·041	+·022	—·039	—·002
	Kurrachee	—·007	+·066	—·028	—·030	+·006	+·011	—·026	+·014	—·020	+·053	+·033	—·026	+·004
EAST RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Jaipur	—·008	+·074	—·018	—·018	+·002	+·033	—·027	+·011	—·006	+·068	+·041	—·014	+·018
	Deesa	—·012	+·062	—·031	—·041	+·006	+·037	—·042	—·003	—·026	+·051	+·033	—·023	+·001
DECCAN	Belgaum	—·011	+·062	—·010	—·002	+·016	+·035	—·027	0	—·006	+·059	+·039	—·015	+·012
	Sholapur	—·018	+·067	—·020	—·011	+·006	+·034	—·036	—·011	—·015	+·054	+·038	—·028	+·005
	Akola	—·011	+·079	—·012	—·011	+·014	+·047	—·030	+·003	+·004	+·077	+·045	—·015	+·016
	Buldana	—·007	+·073	—·008	—·010	+·012	+·044	—·032	+·003	—·004	+·065	+·035	—·022	+·012
	Khandwa	—·008	+·077	—·016	—·021	+·015	+·044	—·031	+·009	0	+·073	+·048	—·003	+·016
	Nagpur	—·007	+·095	—·002	—·005	+·001	+·043	—·016	+·015	+·028	+·108	+·053	—·007	+·026
	Hyderabad (Deccan)	—·006	+·080	+·006	+·006	+·001	+·049	—·019	+·006	+·006	+·079	+·026	—·043	+·016
WEST COAST	Bombay	—·019	+·066	—·020	0	+·027	+·043	—·037	+·005	—·011	+·049	+·026	—·031	+·008
	Karwar	—·005	+·067	+·002	+·009	+·025	+·037	—·018	—·001	+·002	+·046	+·028	—·026	+·014
SOUTH INDIA	Salem	—·010	+·056	—·023	—·010	—·007	+·004	—·022	—·029	—·012	+·049	+·026	—·022	+·001
	Chitaldroog	+·002	+·062	+·004	—·001	—·001	+·038	—·027	—·003	+·002	+·051	+·016	—·039	+·009
	Bangalore	—·009	+·065	—·009	+·007	+·016	+·030	—·014	—·004	+·002	+·049	+·032	—·016	+·012
	Hassan	+·007	+·059	+·008	+·009	+·006	+·039	—·016	—·007	+·005	+·040	+·015	—·024	+·012
	Mysore	+·003	+·057	+·007	+·006	—·001	+·033	—·013	—·012	+·012	+·041	+·014	—·024	+·010
	Madras	—·005	+·080	—·015	+·006	+·003	+·030	—·016	—·013	+·008	+·076	+·032	—·019	+·014
	Bellary	—·016	+·077	—·004	—·005	+·012	+·038	—·016	—·013	—·004	+·055	+·035	—·031	+·011
HILL STATION, BALUCHISTAN.	Quetta	+·051	+·108	+·006	+·006	+·018	+·007	+·006	+·023	—·002	+·052	+·038	—·010	+·025
HILL STATIONS, NORTHERN INDIA.	Leh	+·095	+·142	—·004	—·028	+·038	+·020	—·017	+·023	+·006	+·041	+·042	—·003	+·030
	Srinagar	+·016	+·091	—·016	—·013	—·030	—·023	—·019	+·099	+·060	+·058	+·055	—·028	+·021
	Simla (Ridge)	+·036	+·127	+·022	+·005	+·015	+·015	—·009	+·034	+·008	+·061	+·049	—·016	+·029
	Chakrata	+·008	+·106	+·010	—·007	+·012	+·011	—·009	+·020	—·004	+·049	+·031	—·017	+·018
	Ranikhet	+·014	+·102	+·010	+·003	+·010	+·005	—·023	+·012	+·001	+·069	+·040	—·013	+·019
	Darjeeling	+·018	+·082	+·008	—·026	+·005	—·009	—·017	+·001	—·005	+·045	+·013	—·037	+·007
HILL STATIONS, CENTRAL INDIA.	Mount Abu	—·010	+·068	+·001	—·031	+·006	+·043	—·020	+·003	—·017	+·038	+·027	—·035	+·006
	Pachmarhi	—·001	+·084	+·004	—·011	+·015	+·048	—·020	+·017	—·002	+·071	+·045	—·027	+·019
	Chikalda	—·014	+·030	—·010	—·016	+·009	+·043	—·025	+·012	—·006	+·054	+·023	—·034	+·006

TABLE XVIII.—*Comparison of monthly mean pressures in 1902 with the averages of past years*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Hill Station, Southern India.	Wellington	+·001	+·058	—·001	?	?	?	?	?	?	?	?		?
Extra Indian Stations.	Aden	+·021	+·073	—·024	—·023	?	—·005	?	—·065	—·040	—·017	—·019	—·006	?
	Perim	+·026	+·076	—·007	+·016	—·004	+·011	—·003	—·029	+·006	+·032	—·028	+·001	+·008
	Zanzibar	+·011	+·068	+·010	+·008	—·009	—·029	—·031	—·035	—·001	+·021	—·005	—·023	—·015
	Port Victoria (Seychelles)	+·003	+·053	+·005	—·009	—·016	+·002	—·028	—·035	—·008	—·006	—·027	—·032	—·008
	Mauritius	+·012	—·043	+·028	—·012	—·019	—·054	—·051	—·058	—·022	—·032	—·028	—·091	—·031

The following tables give summaries of the pressure variation data according to the two groups of divisions employed in the corresponding tables of temperature variation data, that is, for the sixteen divisions for which the variation data were given in the "Geographical Summaries" in the annual reports previous to 1891 and the eleven meteorological provinces in Table I of each monthly review:—

TABLE XIX.—*Geographical summary of the pressure variation data of Table II in the monthly weather reviews of 1902.*

Meteorological Province.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalaya	5	+·034	+·114	+·004	—·008	+·009	+·006	—·015	+·038	+·014	+·056	+·043	—·015	+·023
Sikkim Himalaya and Nepal.	1	+·018	+·082	+·008	—·026	+·005	—·009	—·017	+·001	—·005	+·045	+·013	—·037	+·007
Punjab Plains	3	—·028	+·068	—·021	—·016	—·014	+·023	—·020	+·008	—·007	+·062	+·029	—·024	+·005
Gangetic Plain	5	—·021	+·071	—·034	—·012	—·009	+·014	—·022	+·006	—·007	+·072	+·031	—·025	+·005
Western Rajputana	4	—·015	+·064	—·023	—·033	0	+·032	—·031	+·004	—·019	+·046	+·029	—·029	+·002
Eastern Rajputana and Central India.	1	—·008	+·074	—·018	—·018	+·002	+·033	—·027	+·011	—·006	+·068	+·041	—·014	+·012
Nerbudda Valley	1	—·008	+·077	—·016	—·021	+·015	+·044	—·031	+·009	0	+·073	+·048	—·003	+·016
Chota Nagpur	1	—·009	+·091	—·023	—·015	—·007	+·014	—·027	+·013	—·003	+·081	+·026	—·029	+·009
Lower Bengal	2	—·011	+·095	—·017	+·012	+·016	+·024	—·011	+·017	+·005	+·097	+·041	—·021	+·021
Orissa	1	—·016	+·088	—·023	+·002	—·001	+·009	—·016	—·005	—·001	+·093	+·036	—·029	+·011
Central Provinces (South) and Berar.	5	—·008	+·072	—·006	—·011	+·010	+·045	—·025	+·010	+·004	+·075	+·040	—·021	+·015
Konkan	2	—·012	+·066	—·009	+·005	+·026	+·040	—·027	+·002	—·005	+·048	+·027	—·029	+·011
Deccan, Hyderabad and Mysore.	8	—·006	+·066	—·002	+·001	+·007	+·037	—·021	—·006	0	+·054	+·027	—·028	+·011
East Coast and Carnatic.	2	—·008	+·073	—·019	—·002	—·002	+·017	—·019	—·021	—·002	+·063	+·029	—·021	+·007
Arakan and Pegu	3—4	—·029	+·074	—·021	+·007	—·002	—·012	—·014	—·021	+·002	+·069	+·036	—·034	+·005
Bay Islands	1	—·005	+·082	—·002	+·014	+·028	+·021	+·013	+·001	+·032	+·072	+·044	—·009	+·024
Extra-Tropical India	24	—·005	+·083	—·017	—·014	0	+·018	—·021	+·013	—·003	+·065	+·034	—·023	+·011
Tropical India	22—23	—·010	+·070	—·009	0	+·008	+·028	—·019	—·005	+·002	+·062	+·033	—·026	+·011
Whole India	46—47	—·007	+·076	—·013	—·007	+·004	+·023	—·020	+·005	0	+·064	+·033	—·024	+·011

TABLE XX.—*Variations of the mean pressure of each month of 1902 from the normal in the eleven meteorological provinces of India.*

Meteorological Province.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	—·013	+·096	—·009	+·014	+·012	—·001	+·008	—·006	+·020	+·074	+·035	—·034	+·016
Burma Inland .	+·008	+·116	+·005	+·045	+·021	—·001	+·006	+·013	+·028	+·098	+·045	—·032	+·029
Assam . .	—·013	+·102	—·005	+·039	+·006	—·007	—·016	+·011	+·009	+·097	+·054	—·027	+·021
Bengal and Orissa	—·017	+·093	—·016	+·022	+·013	+·006	—·017	+·018	—·002	+·094	+·050	—·019	+·019
Gangetic Plain and Chota Nagpur.	—·015	+·091	—·026	—·002	+·007	+·013	—·026	+·018	—·008	+·093	+·046	—·019	+·014
Upper Sub-Himalayas.	—·012	+·093	—·019	—·013	—·004	+·021	—·019	+·008	—·003	+·078	+·043	—·014	+·013
North-West Frontier Province, Indus Valley and North-West Rajputana.	—·020	+·084	—·028	—·023	—·006	+·030	—·023	+·023	—·013	+·068	+·034	—·021	+·009
East Rajputana, Central India and Gujarat.	—·010	+·079	—·023	—·018	+·012	+·043	—·029	+·014	—·021	+·070	+·041	—·022	+·011
Deccan . .	—·013	+·085	—·013	—·008	+·009	+·045	—·024	+·015	—·003	+·081	+·045	—·022	+·016
West Coast .	—·014	+·071	—·006	+·005	+·014	+·032	—·020	—·009	—·003	+·044	+·020	—·029	+·009
South India . .	—·010	+·085	—·004	+·007	+·009	+·035	—·008	—·005	+·002	+·069	+·034	—·020	+·016

I.—The cold weather period.—The mean pressure of the Indian area was in slight defect in January and in very large excess in February. Pressure averaged ·012″ below the normal in January over the Indian land area. The month was unusually fine and free from cold-weather storms. As usual under these conditions, pressure was in large relative excess at the level of the hill stations in North-Western India. The local variations of pressure in India were generally small in amount and of little significance. The only important feature was a deficiency slightly exceeding ·02″ in the Indus Valley.

In February the mean pressure of the Indian land area was ·088″ above the normal—the largest monthly excess of pressure during the past 26 years. It is especially noteworthy that this general excess of pressure was associated with general excess of temperature, averaging 1°·3 for the whole of India. The local variations at the level of the plains were nowhere large. Pressure was in general local excess in Burma and North-Eastern India. The excess was slightly more than ·02″ in Central and Upper Burma. The area of local deficiency included the western half of the Peninsula, North Bombay and the Indus Valley. The deficiency was greatest in the West Coast districts from Surat to Colombo, where it slightly exceeded ·02″.

Pressure was more largely in relative excess a the hill stations in North-Western India in January than in February. As is usual under these conditions, weather was persistently finer and drier than usual in Northern India and was remarkably free from cold weather storms.

The following gives the mean pressure anomalies in the various parts of India for the period :—

Province or Division.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Burma	+·008	+·018	+·013
Assam	—·001	+·014	+·007
Bengal	—·006	+·005	—·001
Orissa	—·006	+·007	+·001
Bihar	—·002	+·003	+·001
Chota Nagpur	+·006	+·011	+·009
United Provinces of Agra and Oudh .	—·005	0	—·003
Punjab	—·005	+·002	—·002

Province or Division.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Sind	—·010	—·013	—·012
Rajputana	+·001	—·005	—·002
Gujarat	+·004	—·017	—·007
Central India	+·002	—·001	+·001
Central Provinces	—·003	0	—·002
Berar	—·001	—·001	—·001
West Coast	—·002	—·017	—·010
Bombay Deccan	+·004	—·015	—·006
Mysore	+·002	—·020	—·009
Madras Coast	+·003	+·005	+·004
Madras Deccan	—·004	+·004	0
South India	+·002	—·013	—·006

Pressure was in moderate to large relative excess at the level of the hill stations as compared with the neighbouring plains in Northern India and in slight relative defect in Southern India. The excess was very large in the North and West Punjab, Kashmir and Baluchistan as indicated by the data for Leh, Quetta and Murree.

The following gives data for ten pairs of stations :—

Hill and Plain Stations.	Vertical pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Leh and Lahore	+·115	+·065	+·090
Quetta and Jacobabad	+·086	+·060	+·073
Murree and Peshawar	+·067	+·058	+·063
Simla and Ludhiana	+·047	+·034	+·041
Chakrata and Roorkee	+·019	+·012	+·016
Ranikhet and Bareilly	+·027	+·016	+·022
Darjeeling and Dhubri	+·035	—·005	+·015
Mount Abu and Deesa	+·019	+·026	+·023
Pachmarhi and Hoshangabad	—·003	0	—·002
Wellington and Coimbatore	—·001	—·019	—·010

The following data for eleven meteorological provinces illustrate the local conditions in India in January and February.

Meteorological Province.	Pressure anomaly.		
	January.	February.	Period, January and February.
	"	"	"
Burma Coast and Bay Islands	—·002	+·008	+·003
Burma Inland	+·020	+·028	+·024
Assam	—·001	+·014	+·007
Bengal and Orissa	—·005	+·005	0
Gangetic Plain and Chota Nagpur	—·003	+·003	0
Upper Sub-Himalayas	0	+·005	+·003
North-West Frontier Province, Indus Valley and North West Rajputana.	—·010	—·004	—·007
East Rajputana, Central India and Gujarat	+·002	—·009	—·004
Deccan	—·001	—·003	—·002
West Coast	—·002	—·017	—·010
South India	+·001	—·003	—·001

II.—The hot weather period.—The mean pressure of the Indian region was in slight defect in March, normal in April and in very slight excess in May.

The following gives data for the period :—

Month.	Mean Pressure variation.			
	Whole India.		Tropical India.	Extra-Tropical India.
	From data of Table I.	From data of Table II.		
	"	"	"	"
March	—·015	—·013	—·009	—·017
April	+·002	—·007	0	—·014
May	+·009	+·004	+·008	0

The mean 8 A.M. pressure of the period hence averaged ·001″ in defect.

The following gives local pressure variations or anomalies for each month and for the period in the various meteorological divisions.

Meteorological Province.	Pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Burma Coast and Bay Islands	+·006	+·012	+·003	+·007
Burma Inland	+·020	+·043	+·012	+·025
Assam	+·010	+·037	—·003	+·015
Bengal and Orissa	—·001	+·020	+·004	+·008

Meteorological Province.	Pressure anomaly.			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Gangetic Plain and Chota Nagpur	—·011	—·004	—·002	—·006
Upper Sub-Himalayas	—·004	—·015	—·013	—·011
North-West Frontier Province, Indus Valley and North-West Rajputana.	—·013	—·025	—·015	—·018
East Rajputana, Central India and Gujarat.	—·008	—·020	+·003	—·008
Deccan	+·002	—·010	0	—·003
West Coast	+·009	+·003	+·005	+·006
South India	+·011	+·005	0	+·005

The above shows that pressure was locally in excess throughout the period in Burma, North-Eastern India and also in South India and the West Coast, and in persistent slight defect in North-Western and Central India and the Deccan.

The vertical pressure anomalies were generally positive throughout the period in Northern India, but by small amounts compared with the very large values of the excess in January and February.

The following gives data for the period:—

Hill and Plain Stations.	Vertical pressure anomaly			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Leh and Lahore	+·014	—·020	+·039	+·011
Quetta and Jacobabad	+·048	+·029	+·042	+·040
Murree and Peshawar	+·030	0	+·022	+·017
Simla and Ludhiana	+·038	+·009	+·025	+·024
Chakrata and Roorkee	+·023	—·009	+·004	+·006
Ranikhet and Bareilly	+·029	+·005	+·003	+·012
Mount Abu and Deesa	+·037	+·009	—·001	+·015
Pachmarhi and Hoshangabad	+·019	+·007	+·010	+·012

The following gives a fuller statement of the chief abnormal features of the pressure conditions during May:—

(1) The mean 8 A.M. pressure of the Indian land area was ·009″ above the normal, and was hence in excess by almost the same amount as in the corresponding months of 1891 and 1901. The excess in May 1891 accompanied, and was partly the result of, the prevalence of lower temperature than usual, whereas in May 1901 and 1902 it was associated with higher temperature than usual over the greater part of the country, and was hence not a direct temperature effect.

(2) Relatively to the general condition, pressure was in local excess in Burma, Cachar, East and Central Bengal, Orissa, the central and submontane districts of the Gangetic Plain, Gujarat, Bombay, Berar, the western districts of Central India and South and Central Madras. The anomalies were small for all stations in these areas except Kindat (+·027″), Mandalay (+·021″), Ratnagiri (+·024″) and Bahraich (+·021″).

(3) Pressure was in relative defect over the remainder of the country. The deficiency was less than ·02″ over the greater part of the area, but was moderately large in the North and West Punjab and Upper Sind. It was actually largest at Dera Ismail Khan (—·033″), Mooltan (—·028″), Peshawar and Rawalpindi (each —·027″) and Jacobabad (—·024″).

(4) On the mean of the month the trough of low presssure in Northern India occupied its normal position.

(5) Pressure was in sight to moderate excess at the level of the hill stations in Baluchistan, Upper and Central India and in slight defect in the Eastern Himalayas.

(6) The pressure conditions were practically normal in Persia, Arabia and the Equatorial Belt, as is shown by the data for Bushire, Aden, Zanzibar and the Seychelles.

(7) In the South Indian Ocean and Australia the conditions were, so far as can be judged, as abnormal as in the preceding month, pressure being about a fifth of an inch in excess at Adelaide and in slight defect at Mauritius.

III.—The south-west monsoon period.—The south-west monsoon currents were much weaker than usual during June, July and the first two weeks of August. On the West Coast the first advance occurred in the second week of June and was accompanied by the formation and advance of a severe cyclonic storm from about Latitude 19° N and Longitude 70° E to the Sind coast, A feeble depression formed in the Bay and initiated the rains in Bengal.

The monsoon current withdrew from the east and centre of the Arabian Sea on the 16th and 17th and a break in the rains hence set in over West and North-West India. A fresh advance commenced in the Arabian Sea on the 3rd of July. It gave more or less general rain in the west coast districts as far north as Gujarat and to Berar, the Central Provinces and Central India.

A cyclonic storm formed in the north-west of the Bay on the 13th and 14th. It advanced north-westwards into the United Provinces and gave more or less general rain in Orissa, Bengal, the United Provinces and Central India. A second storm formed in the same area on the 27th and followed practically the same track during the next week.

Both currents were very weak during the first fortnight of August and a general break in the rains obtained over nearly the whole of the interior. Conditions changed

rapidly on the 17th and 18th and a strong influx of humid winds set in which lasted until nearly the end of September.

The distribution of the rainfall was largely conditioned by the tracks of a series of moderately severe cyclonic storms which formed in the north-west angle of the Bay and passed in rapid succession landwards. Three of these storms passed into North Bombay and Rajputana and one into Bihar.

Details of these storms are given at the end of this section.

The following is a brief statement of the more important variations of the mean pressure conditions during the period :—

The mean pressure of the Indian land area was in moderate excess in June, in moderate defect in July and practically normal in August and September.

The following gives data for the period :—

Month.	Mean variation of pressure from normal.		
	Extra-Tropical India.	Tropical India.	Whole India.
	"	"	"
June	+·018	+·028	+·023
July	—·021	—·019	—·020
August	+·013	—·005	+·005
September	—·003	+·002	0

The local features of the pressure distribution in June were in many respects similar to those obtaining in May, but were much more strongly pronounced. The following gives data :—

Province or Division.	Pressure anomaly.					
	May.	June.	July.	August	September.	Period, June to September.
	"	"	"	"	"	"
Burma	+·007	—·028	+·025	—·008	+·026	+·004
Assam	—·003	—·032	+·001	+·002	+·011	—·005
Bengal	+·005	—·022	—·002	+·007	—·001	—·005
Orissa	+·001	—·009	+·012	+·008	+·003	+·004
Bihar	—·009	—·027	—·010	+·003	—·010	—·011
Chota Nagpur	—·006	—·011	—·006	+·013	—·007	—·003
United Provinces of Agra and Oudh.	—·002	—·006	—·010	+·002	—·004	—·005
Punjab	—·020	+·003	+·001	+·010	—·003	+·003
Sind	—·011	+·004	—·012	+·005	—·014	—·004
Rajputana	—·001	+·017	—·005	+·011	—·018	+·001
Gujarat	+·008	+·023	—·014	+·003	—·026	—·004
Central India	+·004	+·020	—·017	+·014	—·005	+·003
Central Provinces	—·004	+·013	—·004	+·013	+·005	+·007
Berar	+·007	+·030	—·005	+·011	+·012	+·012
West Coast	+·005	+·007	—·003	—·018	—·001	—·004
Bombay Deccan	+·008	+·023	—·014	—·003	—·011	—·001
Mysore	+·005	+·016	+·001	—·015	—·003	0
Madras Coast	—·004	+·004	+·013	—·012	+·007	+·003
Madras Deccan	0	+·023	—·006	—·011	0	+·002
South India	+·002	+·006	+·015	—·019	+·008	+·003

The local variations changed considerably from month to month. In July pressure was in slight to moderate local excess in Burma, Orissa, South India and the Madras coast, and in very slight defect generally over the remainder of India. In August it was in slight to moderate defect in the Peninsula and Bay (except in the north) and in very slight excess in Extra-Tropical India. The variations of September were larger and more important than for the preceding three months and are fully stated below :—

(1) Pressure was in moderate to considerable excess in September over Burma and the south-east of the Bay. The following gives data for typical stations :—

Station.	Pressure variation.	Anomaly.
	"	"
Port Blair	+·024	+·026
Mergui	+·039	+·041
Rangoon	+·004?	+·006?
Toungoo	+·030	+·032
Mandalay	+·036	+·038
Bhamo	+·030	+·032

(2) The local pressure anomalies in September were small and positive in the eastern half of the Peninsula and small but negative in the western half. The following gives data :—

Province or Division.	Pressure anomaly, September.
	"
Gujarat	—·026
Central India	—·005
Central Provinces	+·005
Berar	+·012
West Coast	—·001

Province or Division.	Pressure anomaly, September.
	″
Bombay Deccan	−·011
Mysore	−·003
Madras Coast	+·007
Madras Deccan	0

(3) There was a remarkable local deficiency in Gujarat Kathiawar and South-West Rajputana accompanying and following the very heavy rainfall in that area in August and September. The following gives data :—

Station.	Actual pressure variation, September.	Pressure anomaly, September.
	″	″
Veraval	−·027	−·025
Deesa	−·030	−·028
Malegaon	−·024	−·022
Ahmedabad	−·044	−·042
Bhavnagar Para	−·042	−·040

(4) Pressure was generally in very slight local defect in Northern India, but the variations were small and of little importance.

(5) An important feature of the last six weeks of the period was the establishment of a moderate excess of pressure in Burma and the south-east of the Bay to the Peninsula.

(6) The vertical pressure anomalies were, over the Himalayas, positive but small in amount during the months of July, August and September, and were, on the other hand, in slight defect in June. They are apparently of little significance and were, during the greater part of the period, related to the temperature variations. The following gives data in illustration :—

Hill and Plain Stations.	Vertical pressure anomaly.				
	June.	July.	August.	September.	Period June to September.
	″	″	″	″	″
Leh and Lahore	−·018	−·007	+·006	+·014	−·001
Quetta and Jacobabad	−·029	+·043	+·023	+·020	+·014
Murree and Peshawar	−·008	−·009	−·015	+·014	−·005
Simla and Ludhiana	−·011	+·018	+·020	+·012	+·010
Chakrata and Roorkee	−·006	+·004	+·007	+·002	+·002
Ranikhet and Bareilly	−·010	+·001	+·011	+·008	+·003
Darjeeling and Dhubri	−·014	−·014	−·015	−·031	−·019
Mount Abu and Deesa	+·005	+·015	+·004	+·011	+·009
Pachmarhi and Hoshangabad	+·009	+·006	−·008	−·006	0
Wellington and Coimbatore	−·005	+·003	+·004	−·013	−·003

IV.—The retreating south-west monsoon period.—The general pressure conditions of the Indian area during the period were remarkable. Pressure which was, on the mean of the whole area, normal in August and September increased much more rapidly than usual in October, and averaged ·077″ above the mean. It continued above the normal in November when the mean 8 A.M. pressure of the whole Indian area was ·041″ in excess. During the last month of the year pressure decreased very rapidly and was, on the average of the month, ·022″ below the normal mean value. These variations were related to general air movements over a large area including probably the whole of Southern Asia and the Indian Ocean.

The following gives a statement of the chief features of the local variations of pressure during the period :—

(1) In October pressure was in moderate local excess in Upper Burma, Bengal, Assam and North Madras, and was in moderate to considerable defect in the west and south of the Peninsula and the south of the Bay. This accompanied a rapid and earlier withdrawal of the monsoon currents from North-Eas India and Burma than usual.

(2) Pressure was in slight general excess over nearly the whole of Northern and Central India and the north-east of the Peninsula in November. It was, on the other hand, in slight to moderate defect in the area of considerable deficiency in October, *viz.*, the west and south of the Peninsula and the south of the Bay. A new feature which was faintly indicated in October now appeared *viz.*, a slight deficiency of pressure in Baluchistan and the West Punjab and Sind.

(3) The local variations of pressure in December were similar to those of November over the greater part of India. Pressure continued in local defect in the Indus Valley and the western half of the Peninsula. It increased relatively to the general condition in the south of the Bay where it was in December in excess and was in slight defect in Burma and the Andaman Sea. Over the remainder of India it was in very slight excess.

(4) The following features were, hence, persistent throughout the period and were the continuation of similar features and conditions initiated in September :—

(*a*) Deficient pressure in the west of the Peninsula relatively to the east of that area and the north-west of the Bay.

(*b*) Slight excess of pressure over the greater part of Northern and Central India and more especially in North Madras and the Central Provinces.

(5) The vertical pressure anomalies were generally negative and moderate in amount in October, but in November and December they were small and of little importance.

The following gives data :—

Hill and Plain Stations.	Vertical pressure anomaly.			Period, October to December.
	October.	November.	December.	
	"	"	"	"
Leh and Lahore	—·043	—·008	+·005	—·015
Quetta and Jacobabad	+·004	+·005	+·024	+·011
Murree and Peshawar	—·012	+·002	+·013	+·001
Simla and Ludhiana	—·017	+·005	—·004	—·005
Chakrata and Roorkee	—·033	—·008	+·002	—·013
Ranikhet and Bareilly	—·016	+·022	+·012	—·001
Mount Abu and Deesa	—·013	+·001	+·001	—·004
Pachmarhi and Hoshangabad	—·008	—·012	—·030	—·017
Wellington and Coimbatore	—·022	—·010	—·002	—·011

The year.—The variations in the pressure conditions from the normal in the Indian area in 1902 are of unusual interest. The mean pressure of the year was on the average of the Indian area ·011″ in excess. It was in excess over the whole area. The excess was greatest in Burma, North-Eastern India, the Central Provinces and Berar where it ranged between ·020″ and ·027″, and least in the West Coast, the Bombay Deccan, Gujarat, Sind and Rajputana, where it was ·01″ in average amount.

The following gives mean variation data of the year for twenty areas:—

Province or Division.	Variation from normal of mean 8 A.M. pressure of year.	Pressure anomaly of year.
	"	"
Burma	+·024	+·009
Assam	+·021	+·006
Bengal	+·020	+·005
Orissa	+·021	+·006
Bihar	+·014	—·001
Chota Nagpur	+·013	—·002
United Provinces of Agra and Oudh	+·015	0
Punjab	+·011	—·004
Sind	+·008	—·007
Rajputana	+·011	—·004
Gujarat	+·011	—·004
Central India	+·018	+·003
Central Provinces	+·020	+·005
Berar	+·027	+·012
West Coast	+·008	—·007
Bombay Deccan	+·011	—·004
Mysore	+·012	—·003
Madras Coast	+·019	+·004
Madras Deccan	+·015	0
South India	+·017	+·002

Pressure was, on the mean of the year, as in the preceding year, more largely in excess at the hill stations than at the neighbouring plains stations in Northern India. The following table gives the mean vertical anomalies of the year for six pairs of stations in Northern and one pair in Southern India :—

Pairs of Stations.	Vertical Pressure anomaly of year.	
	1902	1901
	"	"
Leh and Lahore	+·013	+·021
Quetta and Jacobabad	+·030	+·023
Murree and Peshawar	+·014	+·016
Simla and Ludhiana	+·014	+·010
Chakrata and Roorkee	+·001	+·008
Ranikhet and Bareilly	+·008	+·012
Wellington and Coimbatore	—·005	—·006

It is interesting that in both years the vertical anomalies in Southern India were opposite in sign to those in Northern India. This is the usual rule.

The following gives the variations of the mean pressure of Extra-Tropical and Tropical India, and also of the whole of India from the normal, month by month, during the year 1902 :—

Month.	Variation from normal of mean pressure in			Variation of temperature, whole India from Table II.
	Extra-Tropical India from Table II.	Tropical India from Table II.	Whole India from Table II.	
	"	"	"	°
January	—·005	—·010	—·007	+2·0
February	+·083	+·070	+·076	+2·1
March	—·017	—·009	—·013	+2·3
April	—·014	0	—·007	+0·5
May	0	+·008	+·004	+1·2
June	+·018	+·028	+·023	+1·0
July	—·021	—·019	—·020	+0·7
August	+·013	—·005	+·005	+0·5
September	—·003	+·002	0	+0·4
October	+·065	+·062	+·064	+0·5
November	+·034	+·033	+·033	+0·3
December	—·023	—·026	—·024	+0·2
Whole year	+·011	+·011	+·011	+1·1

The most noteworthy feature during the year was the very large excess of pressure in February and again in October.

The following gives the progressive variation of the mean annual pressure of the past 28 years for the Indian land area :—

Year.	Number of stations.	Mean anomaly.	Progressive variation.
		"	"
1875	33	—'007	
1876	35	—'007	0
1877	59	+'032	+'039
1878	65	+'002	—'030
1879	81	—'014	—'016
1880	93	—'003	+'011
1881	93	+'002	+'005
1882	93	—'010	—'012
1883	105	—'005	+'005
1884	107	+'010	+'015
1885	113	+'014	+'004
1886	118	—'003	—'017
1887	117	—'006	—'003
1888	109	+'011	+'017
1889	76	+'004	—'007
1890	77	—'009	—'013
1891	72	+'010	+'019
1892	72	—'022	—'032
1893	66	—'001	+'021
1894	66	—'012	—'011
1895	66	+'003	+'015
1896	68	—'001	—'004
1897	74	—'005	—'004
1898	74	—'018	—'013
1899	51	+'004	+'022
1900	49	+'010	+'006
1901	47	+'005	—'005
1902	46	+'011	+'006

The following gives a statement of the more important cyclonic storms formed in the Bay of Bengal during the south-west monsoon of 1902, drawn up in the same form as in previous years. The tracks of these storms are given in Plate VI at the end of the Summary :—

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	May	4th to 7th	About '6"	Severe cyclonic storm.	This storm was generated with unusual rapidity in the north of the Andaman sea on the 4th. It intensified on the 5th and advancing in a northerly direction crossed the Pegu Coast to the east of Diamond Island on the morning of the 6th. It broke up rapidly in Central Burma during the day. A slight residual depression lay over Central Burma on the 7th. Very stormy weather was experienced in the Andaman sea on the 5th and 6th and the violent winds accompanying the storm caused much damage to property and shipping at Rangoon. The storm was remarkable in several respects, more especially in its unusually rapid formation and growth. It was, on the whole, the most severe that has visited Lower Burma in the first half of May during the past 25 or 30 years and caused the total loss of the S S. *Camorta* (with 600 passengers on board), and the S. S *Hermod*. The R. I. M. S. *Elphinstone* experienced winds of hurricane violence on the 5th.
2	July	13th to 20th	'32"	Cyclonic storm of moderate intensity.	This storm began to form at the head of the Bay on the 13th. It commenced to move west-north-westwards on the 15th and crossed the Bengal coast between Balasore and Saugor Island on the evening of that day. It thence marched with increasing velocity through Chota Nagpur during the next thirty-six hours and at 8 A.M. of the 17th was in Baghelkhand. It changed its course during the next 24 hours and marching through the central districts of the United Provinces broke up at the foot of the Kumaon hills on the 19th. It was a storm of moderate intensity and gave moderately heavy rain along its path. The rain fall was excessive in Orissa on the 15th and 16th and caused heavy floods which breached the Bengal Nagpur and East Coast Railway lines in several places. The strongest winds experienced in the Bay during the storm were of force 10.

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
3	July and August.	26th July to 2nd August.	" ·20	Cyclonic storm of feeble intensity.	This storm originated on the 26th July over Lower Bengal and the head of the Bay. It marched in a north-westerly direction from the 27th to the 30th into Bundelkhand and then received to north. The centre was near Jhansi on the 31st, Agra on the 1st August and Bareilly on the 2nd. It broke up during the day under the action of the Kumaon hills. The storm determined a moderate to heavy burst of rain to the whole of Extra-Tropical India, east of the Meridian of 74° E. It was an example of a class of disturbances which disminish rapidly in intensity as their distance from the Bengal coast increases but re-develop when the Bombay current begins to feed into them.
4	August.	19th to the 23rd.	" ·15	Cyclonic storm of feeble intensity.	This storm formed on the 18th in the north-west of the Bay off the Ganjam coast during a period of strong winds in the Deccan. The centre advanced across the coast to the south of Gopalpur about noon on the 19th and then marched in a north-westerly direction and was central nearly midway between Raipur and Nagpur on the 20th, near Pachmarhi on the 21st, between Ahmedabad and Neemuch on the 22nd, and to the east-south-east of Hyderabad (Sind) on the 23rd. It was absorbed during the next 24 hours into the permanent low pressure area, in Upper India. The storm although feeble was remarkable for the heavy burst of rain which it gave to Gujarat and Kathiawar. The strongest winds experienced in the Bay during its formation were of force 6.
5	August.	23rd to the 30th.	" ·25	Cyclonic storm of moderate intensity.	This storm formed at the head of the Bay on the 23rd and 24th, whilst the previous storm was breaking up in North-Western India. The depression advanced along a west-north-westerly course through Chota Nagpur, Central India, and Central Rajputana to the quasi-permanent area of low pressure in Sind and Rajputana on the 28th. A residual cyclonic circulation over Sind and West Rajputana during the next two days indicated the continued existence of the disturbance. The storm, although of only moderate intensity, occasioned a moderately heavy burst of rain in Northern and Central India and excessive rain in Gujarat and Kathiawar. The strongest winds experienced by vessels in the Bay during the existence of the storm did not exceed 8 in force.
6	August and September.	30th August to 6th September.	" ·22	Cyclonic storm of moderate intensely	This storm formed over the head of the Bay on the 30th and 31st of August. It marched west-north-westwards through Orissa and the Central Provinces during the next two days and was central near Ahmedabad on the 3rd of September. It continued to advance in the same direction during the day and was absorbed in the low pressure area of the rains in Sind. The storm was remarkable for the heavy burst of rain it gave to Gujarat and the neighbouring districts of Sind and Rajputana during its later stages. The strongest winds experienced in the Bay during the existence of the storm were of force 7.
7	September.	21st to the 26th.	·25"	Cyclonic storm of moderate intensity.	This storm formed over the north of the Bay on the 22nd and 23rd and marched slowly northwards crossing the coast near Balasore on the early morning of the 25th. If thence advanced quickly into North Bihar where it filled up on the 26th. It was a disturbance of moderate intensity and occasioned moderate to heavy general rain in Bengal. The strongest winds actually recorded on board vessels in the Bay during the existence of the storm did not exceed 6 or 7 in force.
8	October.	27th to 31st.	" ·15	Cyclonic storm of slight intensity	This storm formed in the south-west of the Bay in about Lat. 9°N. and long 85°E. on the 26th. It travelled north-westwards on the 27th and crossed the Coromandel coast near Madras on the 28th. It filled up slowly in the Madras Deccan on the 29th and 30th. The storm was chiefly noteworthy for the heavy general rainfall it gave to the Peninsula. The rainfall extended as far north as Bundelkhand and Baghelkhand where it was moderately heavy. The strongest winds experienced during its existence were of force 8 in the Bay.

The following gives a similar statement of the more important storms in the Arabian Sea :—

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	May.	5th to 14th.	At least an inch.	Very severe cyclonic storm or cyclone.	This storm originated in the centre of the Arabian Sea to the south-east of Socotra on the 5th and 6th. It apparently advanced slowly in a northerly

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
					direction on the 7th and 8th, developing at the same time. It recurved to north-east on the 9th and 10th, during which period its average rate of motion was only about 4 miles per hour. The centre travelled in a north-easterly course with increasing velocity on the 11th and 12th, and on the morning of the 13th crossed the Sind coast to the east of Kurrachee about 9 A.M. It thence passed very quickly into the East Punjab where it broke up on the evening of the 14th. It gave destructive winds at Kurrachee on the 13th, inflicting much damage on property. The storm was probably a concentrated disturbance of great intensity and caused very stormy weather over the sea area affected by it. The S.S. *Ehrenfels* of Bremen foundered in the storm on the 9th about 150 miles to the east of Socotra. Winds of hurricane violence were experienced by the *Clan Maclean* and *Soudan*.
2	June.	9th to the 16th.	About an inch.	Very severe cyclonic storm or cyclone.	This storm was one of the severest that have occurred in the north-east of the Arabian Sea in the month of June in recent years. It was generated slowly off the Konkan coast on the 8th, 9th and 10th, in front of the first great advance of the monsoon current over the east of the Arabian Sea. It developed steadily during the next three days, at the same time travelling slowly north-westwards, and on the 14th was a dangerous cyclone with probably a calm centre and inner area of hurricane winds. It recurved slowly to north on the 15th and crossed the Mekran coast about 30 miles to the west of Kurrachee on the afternoon of the 16th, and passed into the broken ground of South Baluchistan where it apparently broke up very rapidly. It was accompanied by a storm wave which in conjunction with the violent winds caused great damage to life and property in Kurrachee and its neighbourhood. This storm was remarkable for its slow movement, great intensity and small extent.
3	October.	12th to 17th	1·2″ (?)	Very severe cyclonic storm or cyclone.	This storm formed in the Arabian Sea nearly midway between Socotra and the Malabar coast on the 12th and 13th and marching west-north-westwards during the next three days was central about 300 miles to the east-south-east of the Kuria Muria Islands on the morning of the 17th. It continued to advance in the same direction during the day and apparently broke up against the Arabian coast as passed into Arabia on the 18th. So far as can be judged from the scanty information available the storm was a very severe disturbance and may have been a cyclone of great intensity with a calm centre. The S. S. *Imperatrix*, *Haidari* and the *Ehrenfels* which were involved in the inner storm area experienced winds of hurricane violence, and a high wild sea. The track of this storm is not given in Plate VI.
4	October and November.	27th October to 3rd November.	At least half an inch (?)	Cyclonic storm of considerable intensity.	This storm originated in the south of the Arabian Sea about 500 miles to the west of the Laccadive Islands on the 27th and 28th. It apparently drifted very slowly northwestwards during the next three days and was central to the north-north-east of Socotra on the morning of the 1st November. It continued to advance north-westwards during the day, and on the morning of the 2nd the storm centre was about 150 miles to the south of the Kuria Muria Islands. It diminished rapidly in intensity during the following 24 hours as it approached the coast and at 8 A.M. of the 3rd was a shallow disturbance of small extent. The residual depression filled up completely during the day. In the absence of information for the central area it is not possible to ascertain the intensity of the storm. The fact that winds of force 6 to 9 were experienced at considerable distances from the centre tends to show that it was a severe and extensive disturbance. The track of the storm is not given in Plate VI.
5	December.	6th to 13th	″·25	Cyclonic storm of moderate intensity.	This storm formed in the south of the Arabian Sea about 500 miles to the west of the Laccadives on the 6th and 7th. It marched slowly in a north north-easterly direction towards the Kathiawar coast during the next five days and was central over the angle between the Kathiawar and Konkan coasts on the 12th. It filled up as it approached coast during the next thirty-six hours. It was throughout a disturbance of moderate intensity, the strongest winds experienced during its existence being of force 9.

Wind.

The mean direction of the wind and the mean diurnal movement of the air, as measured by Robinson anemometers, are given for all second class stations in Table II in each monthly review. The normal values are also stated for the sake of ready comparison. The normal data of these elements, utilized in Table II of the monthly weather Reviews of the year 1902, will be found in a collected form in Table XI and XII of the Annual Summary for 1896 (pages 638-644). The mean 8 A.M. wind directions for each month are laid down in the first chart in each monthly review. They are calculated in the usual manner by Lambert's formula from the 8 A.M. wind data given in Table I in each monthly review. As a general rule, the mean 8 A.M. wind directions vary little from the mean wind directions (calculated from the 10 and 16 hours wind data) in Table II of each monthly review, but in some cases and at certain seasons of the year they differ very considerably.

The chief features of the air movement over India in 1902 have been described in the monthly reviews of the year. The following gives a summary of the more important features for each period:—

1.—The cold weather period.—The air movement in the Indian area during the period was feebler although steadier than usual.

Over the greater part of Bengal, the Gangetic Plain and the Punjab winds were almost without exception light and below their normal strength. They were also generally more westerly and also as a rule steadier than usual.

The following gives comparative data of the air movement in Northern and Central India :—

Area.	Mean daily air movement in miles during cold weather period, January and February.		Percentage variation from normal.
	Actual.	Normal.	
Bengal	116	114	+ 2
Orissa	140	169	—17
Bihar	37	77	—52
Chota Nagpur	122	154	—21
United Provinces of Agra and Oudh	46	62	—26
Punjab	43	54	—20
Sind	106	153	—31
Rajputana	117	149	—21

The most noteworthy feature of the period was the great variability of the air movement in Central India, the Central Provinces and Berar. This was almost as strongly marked in February at the hill stations of Pachmarhi and Chikalda as at the low level stations. The following gives data for five stations :—

Station.	Percentage of mean wind steadiness.			
	January.	February.	Mean of period, January and February.	Normal of period, January and February.
Akola	14	9	12	26
Khandwa.	8	9	9	26
Nagpur	20	16	18	26
Pachmarhi	26	14	20	18
Chikalda	32	21	27	24

Winds were more westerly than usual on the west coast of India.

The air movement in Southern India was steadier but feebler than usual.

The following gives comparative data shewing the variations of the strength of the air movement from the normal during the period in the Peninsula :—

Area.	Mean daily air movement in miles.				Percentage variation from normal of period, January and February.
	Actual, January.	Actual, February.	Mean actual of period, January and February.	Mean normal of period, January and February.	
Central Provinces	83	110	97	96	+1
Berar	115	134	125	117	+7
West Coast	149	163	156	163	—4
Bombay Deccan	248	242	245	212	+16
Mysore	160	161	161	142	+13
Madras Coast	131	118	125	130	—4
Madras Deccan	84	97	91	91	0
South India	71	113	92	123	—25

The variations in the air movement from the normal of the period are such as are almost invariably associated with the absence of cold weather storms and the prevalence throughout of fine settled weather.

The air movement at the Upper India hill stations was stronger and steadier than usual.

The following gives data :—

Station.	Mean wind steadiness during cold weather period, January and February.			Mean daily air movement in miles during cold weather period, January and February.		Percentage variation from normal.
	Actual percentage.	Normal percentage.	Variation from normal.	Actual.	Normal.	
Simla . . .	22	27	—5	147	130	+13
Chakrata . . .	55	4	+51	195	129	+51
Ranikhet . . .	32	18	+14	66	51	+29

The following statement shows the mean wind force and its variation from the normal in the Bay of Bengal and the Arabian Sea during the period :—

Area.	Mean daily force of Wind. (Beaufort Scale.)					
	Actual, January.	Variation from normal, January.	Actual, February.	Variation from normal February.	Mean of period January and February.	Variation from normal of period, January and February.
Bay of Bengal . .	3·1	+0·1	2·9	+0·4	3·0	+0·3
Arabian Sea . .	3·5	+0·2	3·4	+0·4	3·5	+0·3

The data indicate that the drift from the north-east across the Bay of Bengal and Arabian Sea was stronger than usual during the period.

The air movement was more or less below the normal strength over the greater part of the country during the period, an indication that the cold weather conditions were much less marked than usual. These conditions were prolonged beyond their normal date as indicated by the weather in the plains and hill districts of Upper India, and thus slightly delayed establishment of the usual sea breezes on the Bengal coast until the first week of March.

II.—The hot weather period.—Weather was slightly more disturbed than usual in March and April in Northern India due to the advance of a number of feeble depressions from Sind along more southerly tracks than usual to Bengal. These disturbances gave frequent dry duststorms in North-Westerns India and moderate to heavy thundershowers in North-Eastern India. Two cyclonic storms of considerable intensity formed in the Indian Seas in the first week of May. One advanced from the neighbourhood of the Andamans to Lower Burma and the other from the centre of the Arabian Sea to the Sind coast.

Temperature was throughout the period more or less in excess of the normal in North-Western and Central India and the Peninsula. The excess was generally small to moderate in amount, an indication that the hot weather conditions were more pronounced than usual. It was in moderate to considerable defect in the area of excessive rainfall including Burma and North-Eastern India.

The following gives data showing the percentage variation of the air movement, month by month, from the normal during this period in Northern India:—

Area.	Mean daily air movement in							
	March.		April.		May.		Period, March to May.	
	Actual miles.	Percentage variation from normal.	Actual miles.	Percentage variation from normal.	Actual miles.	Percentage variation from normal.	Actual miles.	Percentage variation from normal.
Bengal . .	203	+9	283	+15	242	+1	244	+8
Bihar . .	78	—31	99	—30	119	—22	99	—28
Chota Nagpur .	183	—6	187	—13	210	—5	193	—8
United Provinces of Agra and Oudh.	86	+15	80	+4	96	+7	87	+9
Punjab . .	68	—3	77	—2	84	—1	76	—2
Sind . .	160	—14	204	—5	268	+3	211	—5
Rajputana .	126	—22	157	—11	228	—5	170	—13

The preceding data show that the air movement in the hot season over the greater part of Northern India was weaker than usual. The deficiency was, on the whole, most marked in the month of March and least marked in May.

The following were the chief features of the air movement of the period :—

(1) Winds were steadier and stronger than usual in Bengal.

(2) Winds were throughout of normal strength in Chota Nagpur, the United Provinces and the Punjab,

(3) Winds were on the mean of the period feebler than usual in Bihar.

(4) Winds were feebler than usual throughout the period in Rajputana and in March and April in Sind.

(5) Winds were more vigorous than usual at the hill stations in Northern and Central India

(6) Winds were of normal strength in the Andamans, but contained an unusually strong westerly element in May.

The following gives corresponding data for the Peninsula :—

Area.	Mean daily air movement in March. Actual miles.	March. Percentage variation from normal.	April. Actual miles.	April. Percentage variation from normal.	May. Actual miles.	May. Percentage variation from normal.	Period, March to May. Actual miles.	Period, March to May. Percentage variation from normal.
Central Provinces	138	+10	193	+25	267	+14	199	+16
Berar	145	0	197	+12	285	+12	209	+8
Bombay Deccan	260	+13	296	+11	426	+25	327	+16
Madras Deccan	106	—1	133	+11	175	—6	138	+1
Mysore	146	+14	121	—14	171	—10	146	—3
Konkan	159	—13	172	—5	177	—6	169	—8
Madras Coast	152	+1	201	+9	225	+3	193	+4
South India	95	—25	85	—23	67	—32	82	—27

These data indicate that although on the whole the air movement was stronger than usual in the northern half of the Peninsula it was not so vigorous as usual in the southern half.

The following gives mean data for the winds in the Bay of Bengal and Arabian Sea for the period :—

Area.	Variation of mean daily force of wind (Beaufort's notation) in March.	April.	May.	Period, March to May.	Normal mean strength of winds during period.
Bay of Bengal	+0·1	—0·1	+0·6	+0·2	2·7
Arabian Sea	—0·2	—0·1	—0·4	—0·2	2·9

The mean intensity of the air movement was practically normal, being in slight excess in the Bay of Bengal and in slight defect in the Arabian Sea.

III.—The South-west monsoon period.—The Arabian Sea curren tset in slightly later than usual in the second week of June and extended very slowly and partially into the interior. The Bay current was established about the normal date on the Bengal coast.

The first burst of the monsoon current was not so strong as usual and withdrew from Western and Central India in the third week of June. The break thus initiated lasted until the 2nd July. The Bombay current was weak in the second half of July and a break set in at the end of the month until the 19th August when the current increased rapidly and was strong during the next six weeks. It retreated from North-Western and Central India in the last week of September. The Bengal current was of about normal strength in July and August and was strong, but very unsteady in September. It withdrew from Bengal in the second week of October.

The comparative data in the table below based upon the anemometer observations of four coast and four inland stations under the influence of the two currents give an approximate estimate of the strength of the air movement of the two branches of the monsoon current :—

Month.	Percentage variation from normal of mean daily air movement. Bay of Bengal current. Four coast stations.	Bay of Bengal current. Four inland stations.	Bombay current. Four coast stations.	Bombay current. Four inland stations.
June	+5	—13	—14	+10
July	+24	+6	—11	+3
August	+3	—12	—16	—1
September	+8	+13	—19	—7
Mean of period	+10	—2	—15	+1

The data given in the preceding table show that the air movement at the coast stations affected by the Bengal current was throughout stronger than usual. It varied irregularly at the inland stations and was on the mean normal. The data for the Bombay current indicate that it was considerably below its normal strength in the coast districts.

The following table gives corresponding data for the steadiness of the two currents:—

Month.	Variation from normal of percentage of mean wind steadiness. Bay of Bengal current. Four coast stations.	Bay of Bengal current. One inland station.	Bombay current. Three coast stations.	Bombay current. Four inland stations.
June	+8	—8	+3	+4
July	+10	—7	+1	—8
August	0	—4	+6	+2
September	+9	+4	+2	+1
Mean of period.	+7	—4	+3	0

Both currents were, as shown by the data, steadier than usual in the coast districts.

The comparative data given in the following table of the mean actual and normal force of the winds derived from the meteorological information contained in the logs of vessels navigating the Indian seas indicate that the air movement was below the normal to a moderate extent throughout the period in the Arabian Sea, and was of normal intensity in the Bay of Bengal on the mean of the

whole period. The actual variations are chiefly derived from the data of vessels following four or five tracks in these seas, and hence do not necessarily indicate a variation common to the whole area. They, however, almost certainly establish that the current in the Arabian Sea was below its normal strength throughout the period :—

Month.	Mean daily force of wind (Beaufort's notation) in the Bay of Bengal.			Mean daily force of wind (Beaufort's notation) in the Arabian Sea.		
	Actual.	Normal.	Variation from normal.	Actual.	Normal.	Variation from normal.
June	4·0	4·0	0	3·7	4·5	—0·8
July	4·4	4·0	+0·4	4·3	4·6	—0·3
August	3·7	4·0	—0·3	3·7	4·3	—0·6
September	3·5	3·7	—0·2	3·2	3·5	—0·3
Mean of period	3·9	3·9	0	3·7	4·2	—0·5

The preceding data indicate that on the mean of the whole period the Bay current was of normal strength. It was normal in June, stronger than usual in July and slightly below normal strength in August and September. The Arabian Sea current was throughout weaker than usual, more especially in June and August (due to great weakness in the first three weeks of the latter month).

The following table gives the variations of the steadiness and velocity of the air movement from the normal in Northern India :—

Area.	Percentage variation from normal of mean wind steadiness in					Percentage variation from normal of mean daily air movement in				
	June 1902.	July 1902.	August 1902.	September 1902.	Period, June to September 1902.	June 1902.	July 1902.	August 1902.	September 1902.	Period, June to September 1902.
Bengal	—1	—1	—3	+3	—1	+9	+31	—1	+13	+13
Chota Nagpur	+17	+20	+2	+3	+11	—7	—2	—8	—11	—7
United Provinces of Agra and Oudh	+16	+2	+7	+1	+7	+33	+3	+7	—21	+6
Punjab	+10	+17	—3	+4	+7	—3	+9	—6	—12	—3
Sind	+6	+1	—1	—17	—3	—1	—2	—5	—23	—3
Rajputana	+21	0	+1	—4	+5	+11	+13	+12	—17	+5

The most noteworthy features of the air movement over Northern India during the south-west monsoon period were as follows :—

(1) The air movement was, on the whole, slightly stronger than usual in June, July and August, but was much below its normal intensity in September.

(2) The air movement was steadier than usual throughout the greater part of the season, but was very unsteady in September locally in Sind and Rajputana.

(3) There were large modifications of the air movement in Northern India in July, more especially unusual westing in Chota Nagpur, diminished easting in the east of the United Provinces, and increased easting in the East Punjab and westing in East Rajputana. These were directly related to the northerly displacement of the trough of low pressure. In August the trough of low pressure lay over the North Gangetic Plain, and in consequence the westerly winds of the Bombay current extended much further north than usual, reaching into Central India and the south and west of the Gangetic Plain, thus modifying largely the mean direction in these areas as in July.

(4) Winds were more directly from the south in Bengal. The following gives data for four stations :—

Station.	Wind direction.							
	June.		July.		August.		September.	
	Actual, 1902.	Normal.	Actual, 1902.	Normal.	Actual, 1902.	Normal.	Actual, 1902.	Normal.
Chittagong	S 1°E	S 24°E	S 5°E	S 30°E	S 2°E	S 25°E	S 9°E	S 22°E
Calcutta	S 6 E	S 3 E	S 2 W	S 8 E	S 9 E	S 14 E	S 25 E	S 23 E
Sauger Island	S 2 E	S 12 W	S 16 W	S 21 W	S 7 E	S 13 W	S 10 E	S 2 W
False Point	S 20 W	S 37 W	S 49 W	S 53 W	S 31 W	S 47 W	S 23 W	S 20 W

(5) Over the greater part of Northern India the mean direction of the air movement differed very irregularly from the normal.

The following gives variation data of the steadiness and velocity of the air movement in the Peninsula :—

Area.	Percentage variation from normal of wind steadiness in					Percentage variation from normal of mean daily air movement in				
	June.	July.	August.	September.	Period, June to September.	June.	July.	August.	September.	Period, June to September.
Central Provinces	+3	—13	+1	+3	—2	+39	+5	+6	—10	+10
Berar	+2	—13	+4	—6	—3	+33	—13	+7	—20	+2
Bombay Deccan	0	+6	—2	+4	+2	+9	+23	+7	+12	+13
West Coast	+11	+2	+7	+3	+6	—9	—6	—21	—7	—11
Madras Deccan	+12	+2	+2	—1	+4	+1	—1	—2	—6	—3
South India	—41	—31	—19	—21	—28	—50	—50	—51	—39	—48

The following are the most noteworthy features :—

(1) The air movement was larger in amount from June to August in the Central Provinces, Berar and the Bombay Deccan, but was much below its normal amount in September in Berar and the Central Provinces.

(2) The air movement was feebler than usual throughout in the West Coast districts and Southern India.

(3) Winds were more southerly than usual over the area dominated by the Bombay current in June, July and August. They were generally normal in direction in the Deccan in September, but were more southerly in the coast districts. The following gives data:—

Station.	WIND DIRECTION.							
	June.		July.		August.		September.	
	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.
Bombay	S 62°W	S 64°W	S 69°W	S 74°W	S 87°W	S 81°W	W	N 84°W
Karwar	S 56W	S 73W	S 70W	S 73W	N 75W	N 87W	S 84W	N 80W
Sholapur	N 87W	S 86W	S 56W	S 76W	N 84W	W	N 70W	N 69W
Belgaum	S 72W	S 62W	S 54W	S 68W	S 65W	S 71W	S 64W	S 78W

Winds were much stronger than usual at the hill stations of Mount Abu and Pachmarhi in June, July and August and normal in September. The following gives data :—

Station.	Percentage variation from normal of mean wind steadiness in					Percentage variation from normal of mean daily air movement in				
	June.	July.	August.	September.	Period, June to September.	June.	July.	August.	September.	Period, June to September.
Pachmarhi	+10	−10	−6	−12	−5	+49	+21	+23	+14	+27
Mount Abu	+15	0	−7	+6	+4	+57	+20	+26	+5	+27

Winds were considerably stronger than usual on the Kathiawar coast in June, July and August and were of normal strength on the Sind coast.

Station.	Percentage variation from normal of mean daily air movement in				
	June.	July	August.	September.	Period, June to September.
Kurrachee	−2	+3	+1	−17	−4
Rajkot	+15	+20	+37	+8	+20
Veraval	+15	+15	+12	0	+11

Winds were weaker and more easterly than usual at the Seychelles and Zanzibar in June. They were practically normal in direction in July, August and September.

Station.	WIND DIRECTION.							
	June.		July.		August.		September.	
	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.
Zanzibar	S 7°E	S 4°E	S 5°E	S 5°E	S 3°W	S 9°E	S 10E	S 8°E
Seychelles	S 26E	S 21E	S 28E	S 29E	S 39E	S 36E	S 42E	S 41E

Station.	Percentage variation from normal of mean daily air movement in				
	June.	July.	August.	September.	Period, June to September.
Zanzibar	−9	−2	−11	+5	−4
Seychelles	−5	−7	−10	0	−6

IV.—The retreating south-west monsoon period.—The following table gives the variations of the steadiness and velocity of the air movement from the normal in Northern India :—

Area.	Percentage variation from normal of wind steadiness in				Percentage variation from normal of mean daily air movement in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Bengal	+18	+2	+3	+8	+1	−5	+10	+2
Bihar	+26	−30	−5	−3	?	?	?	?
Chota Nagpur	+28	+10	+20	+19	−6	−8	+16	+1
United Provinces of Agra and Oudh	+3	+11	+30	+15	+2	−12	+3	−2
Punjab	−2	+15	+7	+7	−8	−12	−43	−21
Sind	−1	−6	0	−2	−18	−41	−46	−35
Rajputana	+4	−2	+12	+5	−22	−34	−37	−31

The chief features of the air movement in Northern India were :—

(1) Winds were steadier than usual, and on the whole of normal strength in the Gangetic Plain and Bengal.

(2) Winds were slightly steadier than usual in the Punjab and Rajputana, but were much below their normal strength; they were very feeble in Sind.

(3) Winds were more northerly and less easterly than usual in Lower Burma in November and

December and at Port Blair in December. They shifted much earlier than usual in October to north-easterly directions in Lower Burma.

(4) Winds were more northerly and less westerly than usual over the Gangetic Plain and Rajputana in December and more westerly than usual in October and November.

The following gives variation data of the steadiness and velocity of the air movement in the Peninsula:—

Area.	Percentage variation from normal of mean wind steadiness in				Percentage variation from normal of mean daily air movement in			
	October.	November.	December.	Period, October to December	October.	November.	December.	Period, October to December.
Central Provinces	−9	+19	+15	+8	+3	0	+4	+2
Berar	−6	+3	−1	−1	−14	−30	−17	−20
Bombay Deccan	+32	+12	−4	+13	+2	+5	−15	−3
West Coast	−23	−13	−15	−17	−8	+2	+2	−1
Madras Deccan	+19	−11	−8	0	−5	−14	−8	−9
Madras Coast	+35	+9	+3	+16	−7	+6	−17	−6
Mysore	+46	+12	−12	+15	+3	+2	−26	−7
South India	+14	+26	+13	+18	−2	−18	−22	−14

The chief features of the air movement in the Peninsula were as follows:—

(1) The air movement was on the whole lighter than usual. This feature was very pronounced in the month of December.

(2) The air movement was less variable in direction, more especially in October and November. The increased steadiness was most marked in Southern India including the Coromandel Coast districts, where the rainfall of the season was unusually abundant and well distributed.

(3) Over the East Coast districts and the Deccan the north-easterly winds of the period were more directly from the east than usual. This feature was very marked in October and December. The following gives data for five stations:—

Station.	Easterly deflection.		
	October.	November.	December.
Belgaum	+25°	+8°	0°
Hyderabad	−6	+9	+2
Madras	+23	0	+18
Bangalore	+84	+12	+18
Hassan	+32	+4	+15

(4) Winds were more northerly than usual in October and November on the West coast of India as indicated by the data for Bombay and Karwar. The following gives data:—

Station.	Northerly deflection.	
	October.	November.
Bombay	+11°	+4°
Karwar	+37	+4

(5) The air movement over the Arabian Sea was, on the whole, slightly stronger than usual, and in the Bay of Bengal below its normal strength. The following table gives data:—

Area.	Variation of mean daily force of wind (Beaufort's Notation) in				Normal mean strength of winds during period.
	October.	November.	December.	Period, October to December.	
Bay of Bengal	−0·6	−0·1	−0·2	−0·3	3·2
Arabian Sea	+0·2	+0·3	+0·3	+0·3	3·0

(6) Winds were normal in direction but steadier and stronger than usual at the Seychelles and Zanzibar in December. They were from normal south-east directions in October. They shifted to northerly directions at the Seychelles in November and at Zanzibar in December:—

Station.	Percentage variation from normal of mean wind steadiness in				Percentage variation from normal of mean daily air movement in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Zanzibar	+11	−6	+1	+2	+30	−11	+7	+9
Seychelles	−19	−8	+23	−1	−4	−24	+26	−1

Station.	Wind direction.					
	October.		November.		December.	
	Actual, 1902.	Normal.	Actual, 1902.	Normal.	Actual, 1902.	Normal.
	°	°	°	°	°	°
Zanzibar	S 19 E	S 3 E	S 50 E	S 31 E	N 40 E	N 35 E
Seychelles	S 14 E	S 44 E	N 7 E	S 70 E	N 40 W	N 44 W

Humidity.

The variations of the mean monthly and annual aqueous vapour pressure and humidity values from the calculated normals for the year 1902 are given in Tables XXI and XXII. The normal values employed in the determination of the variations are given in Tables XIII and XIV of the Annual Summary for the year 1896. The four tables (Tables XXIII to XXVI) give variation data of aqueous vapour pressure and relative humidity for each month of the year and for the year:—

1st—For sixteen meteorological areas adopted in the geographical summaries of meteorological data in the annual reports issued by the department previous to 1891.

2nd.—For nine meteorological provinces of the Empire.

TABLE XXI.—*Comparison of the monthly mean vapour pressure data of 1902 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	Port Blair	−·030	+·015	+·016	+·018	+·003	+·011	+·018	+·017	+·013	+·021	−·008	+·041	+·011
	Rangoon	+·010	+·031	−·003	−·011	+·026	+·001	+·009	+·010	+·008	−·013	−·037	−·039	−·001
	Diamond Island	+·019	−·009	0	−·003	−·006	+·010	+·012	+·014	+·008	+·015	−·032	−·031	0
	Cocos Island	−·004	+·025	+·020	+·010	+·037	+·016	?	?	?	?	?	?	?
Bengal and Orissa	Chittagong	+·055	−·028	+·018	−·046	−·017	+·051	−·002	+·020	+·011	−·044	−·073	−·047	−·009
	Calcutta (Alipore)	+·014	−·078	+·017	+·031	+·010	−·010	−·010	−·001	+·008	−·040	−·024	−·044	−·011
	Saugor Island	−·007	−·060	+·042	−·004	−·003	−·003	−·005	+·022	+·015	−·023	−·039	−·035	−·008
	False Point	+·005	−·032	+·050	+·015	+·023	+·010	+·011	+·032	+·019	−·018	−·034	−·012	+·006
Gangetic Plain and Chota Nagpur.	Hazaribagh	+·006	−·007	+·043	+·053	+·046	−·069	−·029	−·015	+·039	−·027	−·024	−·042	−·002
	Darbhanga	−·016	−·030	+·069	+·130	+·071	+·023	+·017	+·033	+·005	0	+·007	−·041	+·022
	Allahabad	−·006	−·026	+·020	+·044	+·067	−·117	−·025	−·016	+·037	−·008	−.017	−·026	−·006
Upper Sub-Himalayas.	Dehra Dun	−·033	−·084	−·031	−·059	+·005	−·065	−·038	−·016	+·011	+·019	+·016	−·044	−.027
	Roorkee	−·034	−·088	−·068	−·038	+·031	−·006	−·009	+·002	+·028	+·012	+·009	−·039	−·017
	Meerut	−·051	−·086	−·078	−·079	−·040	−·017	+·013	+·011	+·025	+·028	−·014	−·066	−·030
	Lahore	−·060	−·064	−·019	−·016	+·054	+·016	−·017	−·015	+·051	+·109	+·035	−·032	+·004
	Ludhiana	−·069	−·092	−·066	−·084	−·033	−·037	−·038	−·070	+·014	+·005	−·023	−·067	−·047
North-West Frontier, Indus Valley and North-West Rajputana.	Peshawar	−·050	−·038	+·011	−·027	−·003	+·001	−·030	−·109	0	+·080	+·042	−·019	−·012
	Jacobabad	−·041	−·028	+·117	+·156	?	?	?	?	?	?	+·129	?	?
	Kurrachee	+·041	−·016	+·118	+·127	+·058	+·030	+·067	+·021	+·049	+·134	+·080	−·003	+·059
Eastern Rajputana, Central India and Gujarat.	Jaipur	−·048	−·010	+·029	−.019	−·017	−·049	−·004	−·027	+·055	+·051	−·009	−·071	−·010
	Deesa	−·047	−·089	−·047	+·028	−·023	−.038	−·066	−·047	+·061	+·082	−·005	−·011	−·017
Deccan.	Belgaum	−·011	−·043	+·020	−·009	+·027	−·012	+·021	+·002	+·038	+·035	+·052	+·162	+·024
	Sholapur	−·029	−·037	−·044	+·004	−·017	−·005	−·005	−·014	+·019	−·041	+·003	+·120	−·004

TABLE XXI.—*Comparison of the monthly mean vapour pressure data of 1902 with the averages of past years*—concld

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Deccan—*concld.*	Akola	−·025	−·047	−·087	+·026	+·123	−·055	+·031	−·025	+·028	+·020	+·016	+·088	+·008
	Buldana	−·048	−·095	−·101	−·004	−·035	−·096	−·002	−·043	+.002	0	0	+·066	−·030
	Khandwa	+·026	−·019	−·051	−.015	−·021	−·071	+·014	−·022	+·031	+·045	+·052	+·057	+·002
	Nagpur	−·021	−·079	−·119	−·048	−·091	−·066	+·001	−·015	+·027	+.005	−·027	+·058	−·031
	Hyderabad (Deccan)	P	P	P	P	P	P	P	P	P	−·007	+·018	+·093	P
West Coast	Bombay	+·025	−·008	+·048	+·041	+·022	−·009	+·017	+·005	+·022	+·028	−·011	+·030	+·018
	Karwar	+·032	−·027	+·019	+.033	+·088	−·004	+·006	+·024	+·003	+·009	+·017	+·114	+·026
South India	Salem	+·050	+·092	+·135	+·135	+·049	+·013	+·016	+·036	+·040	+·035	+·096	+·126	+·069
	Chitaldroog	+·042	+·042	+·004	+·024	+·033	+·002	+·046	+·017	+.044	+·031	+·066	+·122	+·039
	Bangalore	−·021	−·054	−·053	+·012	+·002	−·026	−·013	+·006	+·034	+·005	+·049	+.090	+·003
	Hassan	−·025	−·051	−·060	0	+·026	+·002	+·039	+·027	+·030	+·001	+·022	+·087	+·008
	Mysore	−·039	−·047	−·020	+·017	+·034	−·013	+·032	−.021	+·024	−·003	+·022	+·107	+·008
	Madras	+·042	+·015	+·041	+.012	+.005	+·029	+.043	+·073	+·077	+·031	+·045	+·062	+·040
	Bellary	−·041	+·072	+·085	−·002	+·064	+·043	+·032	−·015	+·008	+·004	+·031	+·049	+·028
Hill Station, Baluchistan.	Quetta	−·017	−·032	−·016	−·038	−·010	−·031	−·114	−.051	−·014	+·027	+·049	+·012	−·020
Hill Stations, Northern India.	Leh	−·036	−·023	+·004	+·018	+·014	+·018	0	−·004	+·020	+·026	−·009	−·052	−·002
	Srinagar	+·056	+·081	+·063	+.048	+.107	+·068	+·068	+·045	+·083	+·045	+·024	+·005	+·058
	Kailang	−·006	0	+·013	−·001	+·004	−.009	−·016	−·023	+·009	+·015	+·011	P	P
	Simla (Ridge)	−·033	−·038	−·014	−·046	−·020	−·030	−·035	−·041	−·020	+·010	−·009	−·030	−·026
	Chakrata	−·013	−·029	−.001	−·035	+·003	−·018	−·019	−·009	+·009	P	+·001	−·029	P
	Ranikhet	+·005	−·035	−·024	−·051	−.003	−·029	−·005	−·004	+·009	−·011	−·007	−.042	−·016
	Katmandu	−·024	−·025	−·013	−·003	+.010	−·009	−·003	+·010	+·019	−·028	−·018	−·043	−·011
	Darjeeling	P	+·012	+·017	+·003	−.008	−·014	−011	+·012	+·005	−·028	−·017	−·027	P
Hill Stations, Central India.	Mount Abu	−·027	−·038	+·001	+·047	−·016	−·046	−·006	−·013	+·018	+·041	−·027	−·006	−·006
	Pachmarhi	−·016	−·035	−·045	+·007	−·027	−·051	+·020	+·008	+·030	+·014	+·025	+·038	−·003
	Chikalda	−·035	−·075	−·076	+·006	−·031	−·017	+·018	+·013	+·030	+·039	+·004	+·063	−·005
Hill Station, Southern India.	Wellington	−·013	−·015	−·029	P	P	P	P	P	P	P	P	P	P
Extra Indian Stations.	Aden	−·025	−·054	−.073	+·013	P	+·028	P	+·133	−·002	+·023	+·042	−·033	P
	Perim	+·183	+·092	+·087	+.184	+·232	+·171	+·202	+·173	+·176	P	+·097	P	P
	Zanzibar	−·037	−·032	−·009	+·038	+·025	+·030	+·036	+·020	+·038	+·026	+·051	+·022	+·017
	Port Victoria (Seychelles)	−·011	+.015	+·028	P	+·063	+·051	+·053	+·071	+·049	+·032	+·028	+·004	P
	Mauritius (Pamplemouses.)	−·046	+·002	−·036	−·011	−·011	+.036	+·025	+·019	+·017	+·030	+·030	+·067	+·010

TABLE XXII.—*Comparison of the monthly mean relative humidity data of 1902 with the averages of past years.*

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
BURMA COAST AND BAY ISLANDS.	Port Blair	−5	+1	0	−2	+1	−1	−3	+1	+1	−4	+1	+1	−1
	Rangoon	+1	+4	−3	−3	+3	−2	−1	−1	−2	−3	−6	−5	−2
	Diamond Island	−3	−6	−3	−4	+5	−1	−2	−3	−1	−2	−7	−6	−3
	Cocos Island	−3	+1	0	−5	−2	−1	?	?	?	?	?	?	?
BENGAL AND ORISSA	Chittagong	+4	−4	−2	+3	0	+1	+2	−2	0	−1	−3	−2	0
	Calcutta (Alipore)	−6	−13	−3	+4	+3	−4	−2	−5	−3	−7	−4	−9	−4
	Saugor Island	−3	−9	+2	0	−1	−3	−1	−3	−3	−6	−5	−5	−3
	False Point	−3	−7	0	−2	0	−2	0	0	−2	−4	−2	−3	−2
GANGETIC PLAIN AND CHOTA NAGPUR.	Hazaribagh	−3	−6	+1	+4	+6	−15	−5	−6	−2	−4	−5	−8	−4
	Darbhanga	−5	−8	+2	+12	+8	0	+1	−1	+2	+1	+1	−5	+1
	Allahabad	−5	−8	−4	+2	+3	−13	−1	−5	+3	−3	−3	−5	−3
UPPER SUB-HIMALAYAS.	Dehra Dun	−13	−23	−10	−5	0	−9	−2	−4	+1	+3	+1	−9	−6
	Roorkee	−7	−20	−14	−3	+2	+1	+3	0	+4	+5	+3	−3	−2
	Meerut	−12	−19	−13	−6	−5	+1	+6	−2	+2	+4	−2	−12	−5
	Lahore	−12	−18	−5	0	+4	+4	0	−2	+7	+11	+4	−2	−1
	Ludhiana	−18	−23	−14	−9	−4	−3	−3	−11	+3	−1	−5	−10	−8
NORTH-WEST FRONTIER, INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Peshawar	−17	−20	−5	−5	−5	−1	−2	−12	−2	+8	+3	−5	−5
	Jacobabad	−9	−8	+3	+5	?	?	?	?	?	?	?	?	?
	Kurrachee	−1	−7	+6	+2	+2	+3	−3	−3	−1	+3	0	−4	0
EAST RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Jaipur	−14	−10	−6	−4	−3	−6	−6	−11	+3	+3	−5	−14	−6
	Deesa	−9	−13	−6	+2	0	−3	−18	−10	+3	+6	−2	−3	−4
DECCAN	Belgaum	0	−2	+5	+2	+2	−4	+2	−5	+3	+5	+8	+24	+3
	Sholapur	−7	−6	−7	+1	−4	−3	−5	−6	0	−9	+2	+14	−3
	Akola	−7	−9	−10	+1	+6	−10	−1	−8	0	0	+2	+9	−2
	Buldana	−9	−13	−12	0	−4	−15	−5	−9	−1	−2	+1	+11	−5
	Khandwa	−2	−7	−10	−3	−3	−13	−5	−9	+1	+2	+7	+8	−3
	Nagpur	−7	−11	−14	−4	−7	−14	−3	−6	+2	0	−4	+7	−5
	Hyderabad (Deccan)	?	?	?	?	?	?	?	?	?	−4	+2	+6	?
WEST COAST	Bombay	−2	−3	0	0	−3	−5	−2	−5	+2	−4	−6	0	−2
	Karwar	−2	−5	−2	0	+3	−2	−1	−3	−2	−3	−2	+6	−1

TABLE XXII.—*Comparison of the monthly mean relative humidity data of 1902 with the averages of past years*—concld.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
SOUTH INDIA	Salem	+5	+11	+11	+10	+3	−4	+1	+1	+2	+4	+5	+9	+5
	Chitaldroog	+4	+4	−1	0	0	−3	+2	−6	+5	+3	+4	+12	+2
	Bangalore	−3	−4	−5	+3	−1	−7	−5	−5	+3	+1	+4	+8	−1
	Hassan	−1	−4	−9	0	0	−4	+2	−2	+3	−2	+2	+10	0
	Mysore	−3	−4	−2	0	0	−6	+2	−4	+5	−1	+5	+9	0
	Madras	+4	+2	+3	0	−3	−2	+1	+4	+6	+4	+2	+4	+2
	Bellary	−6	+7	+3	0	+4	+3	+1	−5	0	+1	+3	+2	+1
HILL STATION, BALUCHISTAN.	Quetta	−11	−19	−12	−7	−3	−2	−11	−7	−2	+7	+8	+4	−5
HILL STATIONS, NORTHERN INDIA.	Leh	−31	−29	+1	+7	+4	+7	+5	+4	+6	+8	−8	?	?
	Srinagar	+3	+	+5	+12	+12	+11	+8	+6	+6	0	+2	0	+6
	Kailang	−13	−9	+5	+7	0	+1	+2	0	+2	+4	+12	?	?
	Simla (Ridge)	−19	−20	−4	−4	−2	0	−2	−6	+2	+10	0	−8	−4
	Chakrata	−16	−22	−1	−1	+1	−3	0	0	+4	?	−1	−13	?
	Ranikhet	−4	−19	−8	−5	−3	−4	+1	−3	+1	+3	−1	−12	−5
	Katmandu	−10	−10	−5	+1	+1	+1	+2	0	+3	+3	−1	−3	−2
	Darjeeling	?	−2	0	+7	−2	−3	−2	−2	−1	+2	−7	−14	?
HILL STATIONS, CENTRAL INDIA.	Mount Abu	−11	−12	−6	+3	−2	−5	−11	−9	0	+6	−5	−2	−5
	Pachmarhi	−6	−10	−11	−1	−5	−13	−2	−6	+2	+2	+6	+7	−3
	Chikalda	−10	−13	−12	+1	−5	−11	−5	−5	0	+3	+2	+14	−3
HILL STATION, SOUTHERN INDIA.	Wellington	−4	−3	−5	?	?	?	?	?	?	?	?	?	?
EXTRA INDIAN STATIONS.	Aden	−3	−6	−8	−3	?	+4	?	0	0	0	0	−4	?
	Perim	+19	+9	+7	+14	+14	+13	+13	+8	+14	?	+7	?	?
	Zanzibar	−4	0	−1	+2	0	0	0	−1	+1	+2	+1	+3	0
	Port Victoria (Seychelles)	+3	+4	+3	?	+7	+6	+5	+7	+6	+3	+2	0	?
	Mauritius (Pamplemouses).	−2	+1	−2	−1	−2	0	+1	0	0	+1	+1	+6	0

TABLE XXIII.—*Geographical summary of the aqueous vapour pressure data of Table II in the monthly weather reviews of 1902.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalaya	5—6	—·005	—·007	+·007	—·011	+·018	0	—·001	—·006	+·018	+·017	+·002	—·030	0
Sikkim Himalaya and Nepal	1—2	—·024	—·007	+·002	0	+·001	—·012	—·007	+·011	+·012	—·028	—·018	—·035	—·009
Punjab Plains	3	—·060	—·065	—·025	—·042	+·006	—·007	—·028	—·065	+·022	+·065	+·018	—·039	—·018
Gangetic Plain	5	—·028	—·063	—·018	0	+·027	—·036	—·008	+·003	+·021	+·010	0	—·043	—·011
Western Rajputana	3—4	—·019	—·043	+·047	+·090	+·006	—·018	—·002	—·013	+·043	+·086	+·044	—·007	+·018
Eastern Rajputana and Central India	1	—·048	—·010	+·029	—·019	—·017	—·049	—·004	—·027	+·055	+·051	—·009	—·071	—·010
Nerbudda Valley	1	+·026	—·019	—·051	—·015	—·021	—·071	+·014	—·022	+·031	+·045	+·052	+·057	+·002
Chota Nagpur	1	+·006	—·007	+·043	+·053	+·046	—·069	—·029	—·015	+·039	—·027	—·024	—·042	—·002
Lower Bengal	2	+·004	—·069	+·030	+·014	+·004	—·007	—·008	+·011	+·012	—·032	—·032	—·040	—·009
Orissa	1	+·005	—·032	+·050	+·015	+·023	+·010	+·011	+·032	+·019	—·018	—·034	—·012	+·006
Central Provinces (South) and Berar	5	—·029	—·066	—·086	—·003	—·012	—·057	+·014	—·012	+·023	+·016	+·004	+·063	—·012
Konkan	2	+·029	—·018	+·034	+·037	+·055	—·007	+·012	+·015	+·013	+·019	+·003	+·072	+·022
Deccan, Hyderabad and Mysore	7—8	—·018	—·017	—·010	+·007	+·024	—·001	+·022	0	+·028	+·003	+·033	+·104	+·015
East Coast and Carnatic	2	+·046	+·054	+·088	+·074	+·027	+·021	+·030	+·055	+·059	+·033	+·071	+·094	+·054
Arakan and Pegu	3	+·028	—·002	+·005	—·020	+·001	+·021	+·006	+·015	+·009	—·014	—·047	—·039	—·003
Bay Islands	1—2	—·017	+·020	+·018	+·014	+·020	+·014	+·018	+·017	+·013	+·021	—·008	+·041	+·014
Extra-Tropical India	24—26	—·018	—·036	+·008	+·009	+·013	—·019	—·007	—·010	+·024	+·022	+·005	—·030	—·003
Tropical India	20—22	—·004	—·016	—·011	+·011	+·015	—·008	+·017	+·007	+·025	+·009	+·013	+·067	+·010
Whole India	45—48	—·011	—·027	—·001	+·009	+·014	—·014	+·004	—·002	+·024	+·016	+·009	+·015	+·003

TABLE XXIV—*Geographical summary of the humidity data of Table II in the monthly weather reviews of 1902.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
orth-West Himalaya	4—6	—13	—16	0	+3	+2	+2	+2	0	+4	+5	+1	—8	—2
kkim Himalaya and Nepal	1—2	—10	—6	—3	+4	—1	—1	0	—1	+1	+3	—4	—9	—2
unjab Plains	3	—16	—20	—8	—5	—2	0	—2	—8	+3	+6	+1	—6	—5
angetic Plain	5	—8	—16	—8	0	+2	—4	+1	—2	+2	+2	0	—7	—3
estern Rajputana	3—4	—8	—10	—1	+3	0	—2	—11	—7	+1	+5	—2	—3	—3
astern Rajputana and Central India	1	—14	—10	—6	—4	—3	—6	—6	—11	+3	+3	—5	—14	—6
erbudda Valley	1	—2	—7	—10	—3	—3	—13	—5	—9	+1	+2	+7	+8	—3
hota Nagpur	1	—3	—6	+1	+4	+6	—15	—5	—6	—2	—4	—5	—8	—4
ower Bengal	2	—5	—11	—1	+2	+1	—4	—2	—4	—3	—7	—5	—7	—4

TABLE XXIV.—*Geographical summary of the humidity data of Table II in the monthly weather reviews of 1902*—concld.

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Orissa	1	—3	—7	0	—2	0	—2	0	0	—2	—4	—2	—3	—2
Central Provinces (South) and Berar	5	—8	—11	—12	—1	—3	—13	—3	—7	+1	+1	+1	+10	—4
Konkan	2	—2	—4	—1	0	0	—4	—2	—4	0	—4	—4	+3	—2
Deccan, Hyderabad and Mysore	7—8	—2	—1	—2	+1	0	—3	0	—5	+3	—1	+4	+11	0
East Coast and Carnatic	2	+5	+7	+7	+5	0	—3	+1	+3	+4	+4	+4	+7	+4
Arakan and Pegu	3	+1	—2	—3	—1	+3	—1	0	—2	—1	—2	—5	—4	—1
Bay Islands	1—2	—4	+1	0	—4	—1	—1	—3	+1	+1	—4	+1	+1	—1
Extra-Tropical India	23—26	—10	—13	—3	+1	+1	—2	—1	—4	+2	+2	—1	—6	—3
Tropical India	20—22	—3	—3	—3	0	0	—5	—1	—4	+1	—1	+1	+7	—1
Whole India	44—48	—6	—8	—3	0	0	—4	—1	—4	+1	+1	0	0	—2

TABLE XXV.—*Variations of the mean monthly aqueous vapour pressure from the normal in nine meteorological provinces of India in 1902.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	—·001	+·016	+·008	+·005	+·015	+·010	+·013	+·014	+·010	+·007	—·026	—·010	+·005
Bengal and Orissa	+·017	—·050	+·032	—·001	+·003	+·012	—·002	+·018	+·014	—·031	—·043	—·035	—·006
Gangetic Plain and Chota Nagpur.	—·005	—·021	+·044	+·076	+·061	—·054	—·012	+·001	+·027	—·012	—·011	—·036	+·005
Upper Sub-Himalayas	—·049	—·083	—·052	—·055	+·003	—·022	—·018	—·018	+·026	+·035	+·005	—·050	—·023
North-West Frontier Province, Indus Valley and North-West Rajputana.	—·017	—·027	+·082	+·085	+·028	+·016	+·019	—·044	+·025	+·107	+·084	—·011	+·029
East Rajputana, Central India and Gujarat.	—·048	—·050	—·009	+·005	—·020	—·044	—·035	—·037	+·058	+·067	—·007	—·041	—·013
Deccan	—·018	—·053	—·064	—·008	—·002	—·051	+·010	—·020	+·024	+·008	+·016	+·092	—·006
West Coast	+·029	—·018	+·034	+·037	+·055	—·007	+·012	+·015	+·013	+·019	+·003	+·072	+·022
South India	+·001	+·010	+·019	+·033	+·030	+·007	+·028	+·018	+·037	+·015	+·047	+·092	+·028

TABLE XXVI.—*Variations of the mean monthly relative humidity from the normal in nine meteorological provinces of India in 1902.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands.	−3	0	−2	−4	+2	−1	−2	−1	−1	−3	−4	−3	−2
Bengal and Orissa .	−2	−8	−1	+1	+1	−2	0	−3	−2	−5	−4	−5	−3
Gangetic Plain and Chota Nagpur.	−4	−7	0	+6	+6	−9	−2	−4	+1	−2	−2	−6	−2
Upper Sub-Himalayas	−12	−21	−11	−5	−1	−1	+1	−4	+3	+4	0	−7	−5
North-West Frontier Province, Indus Valley and North-West Rajputana.	−9	−12	+1	+1	+5	+1	−3	−8	−2	+6	+5	−5	−2
East Rajputana, Central India and Gujarat.	−12	−12	−6	−1	−2	−5	−12	−11	+3	+5	−4	−9	−6
Deccan . . .	−5	−8	−8	−1	−2	−10	−3	−7	+1	−1	+3	+11	−3
West Coast . .	−2	−4	−1	0	0	−4	−2	−4	0	−4	−4	+3	−2
South India . .	0	+2	0	+2	0	−3	+1	−2	+3	+1	+4	+8	+1

I.—The cold weather period.—This period was remarkable for the abnormal dryness of the air over the greater part of India accompanying an almost entire absence of cold weather storms and rainfall in the plains of Northern India. The relative humidity was more or less largely below the normal over the whole of North-Western and Central India, and was generally in slight defect in the Peninsula and North-Eastern India.

The following gives data for the areas in which the mean relative humidity was more than 10 below the normal:—

AREA.	VARIATION OF MEAN ABSOLUTE HUMIDITY FROM NORMAL IN			VARIATION OF MEAN RELATIVE HUMIDITY FROM NORMAL IN		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Punjab . . .	−·060	−·065	−·063	−16	−20	−18
Rajputana . .	−·048	−·050	−·049	−12	−12	−12
United Provinces of Agra and Oudh .	−·031	−·071	−·051	−9	−18	−14

The following gives data for stations in the area of greatest relative dryness of the air :—

STATION.	VARIATION OF MEAN 8 A.M. ABSOLUTE HUMIDITY FROM NORMAL IN			VARIATION OF MEAN 8 A.M. RELATIVE HUMIDITY FROM NORMAL IN		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Rawalpindi . .	−·086	−·098	−·092	−29	−35	−32
Khushab . .	−·112	−·092	−·102	−33	−34	−34
Montgomery . .	−·107	−·131	−·119	−29	−35	−32
Peshawar . .	−·049	−·065	−·057	−14	−28	−21
Ludhiana . .	−·062	−·095	−·079	−13	−24	−19
Sialkot . . .	−·073	−·073	−·073	−16	−20	−18
Umballa . .	−·052	−·091	−·072	−10	−25	−18
D. I. Khan . .	−·050	−·080	−·065	−10	−23	−17
Mooltan . .	−·062	−·118	−·090	−11	−21	−16

This area of excessive dryness hence included nearly the whole of the Punjab.

This feature was almost as strongly marked at the hill stations in Upper India, as is shown by the following data :—

Station.	Variation of mean 8 A.M. absolute humidity from normal in			Variation of mean 8 A.M. relative humidity from normal in		
	January	February.	Period, January and February	January.	February.	Period, January and February.
	"	"	"			
Gilgit	—·016	—·022	—·019	—8	—17	—13
Cherat	—·061	—·054	—·058	—32	—30	—31
Murree	—·026	—·003	—·015	—25	—19	—22
Simla	—·027	—·028	—·028	—17	—19	—18
Chakrata	—·012	—·026	—·019	—13	—19	—16
Ramkhet	—·008	—·037	—·023	—6	—19	—13

The air was slightly drier than usual in Baluchistan.

The following gives mean data for seventeen meteorological divisions :—

Province or Division.	Variation of mean daily absolute humidity from normal in			Variation of mean daily relative humidity from normal in		
	January	February.	Period, January and February.	January.	February.	Period, January and February.
	"	"	"			
Burma	+·015	+·011	+·013	—1	—1	—1
Bengal	+·021	—·055	—·017	—2	—9	—6
Orissa	+·005	—·032	—·014	—3	—7	—5
Bihar	—·016	—·030	—·023	—5	—8	—7
Chota Nagpur	+·006	—·007	—·001	—3	—6	—5
U. P. of Agra & Oudh	—·031	—·071	—·051	—9	—18	—14
Punjab	—·060	—·065	—·063	—16	—20	—18
Sind	0	—·022	—·011	—5	—8	—7
Rajputana	—·048	—·050	—·049	—12	—12	—12
Central Provinces	+·003	—·049	—·023	—5	—9	—7
Berar	—·037	—·071	—·054	—8	—11	—10
West Coast	+·029	—·018	+·006	—2	—4	—3
Bombay Deccan	—·020	—·040	—·030	—4	—4	—4
Mysore	—·011	—·028	—·020	—1	—2	—2
Madras Coast	+·042	+·015	+·029	+4	+2	+3
Madras Deccan	—·041	+·072	+·016	—6	+7	+1
South India	+·050	+·092	+·071	+5	+11	+8

As might be expected, unusually low humidities were reported during the period. The following gives the most noteworthy and lowest recorded at stations in the abnormally dry area in North-Western India during the driest periods :—

Station.	Date.	Hour.	Lowest humidity recorded during February.
			%
Jamnagar	3rd February.	4 P.M.	1
Deesa	8th ,,	10 A.M.	4
Meerut	2nd ,,	4 P.M.	4
Jamnagar	1st ,,	,, ,,	5
Deesa	1st ,,	,, ,,	6
Roorkee	7th ,,	,, ,,	7
Peshawar	5th ,,	10 A.M.	9

II.—The hot weather period.—The humidity conditions were much less abnormal in this than the preceding period. Weather was somewhat more disturbed than usual in the Himalayan hill districts of North-Western India in March, and the air was on the mean of the month slightly damper than usual in Kashmir during March and the two following months. Humidity also increased considerably, relative to the conditions obtaining in January and February, in the Punjab, Sind and Rajputana, but was below the normal value in the first and third areas in March and April and practically normal in May. The months of April and May were characterized by unusually frequent thunderstorms and heavy rain than usual in North-Eastern India, and the air was hence damper than usual in these areas during these two months. The air was very dry in Central India, Berar and the Central Provinces in March, but the increased indraught of local sea winds due to the persistent high temperature generally prevailing in the interior throughout the season raised the humidity on the average slightly above the normal in May over the greater part of that area. The variations in the remainder of India were small and of little significance.

The following gives mean variation data of the period for comparison :—

Province or Division.	Variation of mean daily absolute humidity from normal in				Variation of mean daily relative humidity from normal in			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
	"	"	"	"				
Burma	—·002	—·007	+·010	0	—3	—4	+4	—1
Bengal	+·026	—·006	—·003	+·006	—1	+2	+1	+1
Orissa	+·050	+·015	+·023	+·029	0	—2	0	—1

Province or Division.	Variation of mean daily absolute humidity from normal in				Variation of mean daily relative humidity from normal in			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
	"	"	"	"				
Bihar	+ ·069	+ ·130	+ ·071	+ ·090	+2	+12	+8	+7
Chota Nagpur	+ ·043	+ ·053	+ ·046	+ ·047	+1	+4	+6	+4
U. Prov. of Agra and Oudh.	− ·039	− ·033	+ ·016	− ·019	−10	−3	0	−4
Punjab	− ·025	− ·042	+ ·006	− ·020	−8	−5	−2	−5
Sind	+ ·118	+ ·142	+ ·058	+ ·106	+5	+4	+2	+4
Rajputana	− ·009	+ ·005	− ·020	− ·008	−6	−1	−2	−3
Central Provinces	− ·085	− ·032	− ·056	− ·058	−12	−4	−5	−7
Berar	− ·094	+ ·011	+ ·044	− ·013	−11	+1	+1	−3
West Coast	+ ·034	+ ·037	+ ·055	+ ·042	−1	0	0	0
Bombay Deccan	− ·012	− ·003	+ ·005	− ·003	−1	+2	−1	0
Mysore	− ·032	+ ·013	+ ·024	+ ·002	−4	+1	0	−1
Madras Coast	+ ·041	+ ·012	+ ·005	+ ·019	+3	0	−3	0
Madras Deccan	+ ·085	− ·002	+ ·064	+ ·049	+3	0	+4	+2
South India	+ ·135	+ ·135	+ ·049	+ ·106	+11	+10	+3	+8

The air was considerably drier in Baluchistan and Persia, but damper in Thibet during the period. The following gives data:—

Station.	Variation of mean 8 A.M. absolute humidity from normal in				Variation of mean 8 A.M. relative humidity from normal in			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
	"	"	"	"				
Quetta	− ·006	− ·028	+ ·027	− ·002	−13	−4	+3	−5
Chaman	+ ·030	− ·041	+ ·049	+ ·013	−6	−17	+2	−7
Bushire	+ ·066	+ ·165	− ·034	+ ·066	+1	+15	−6	+3
Ispahan	− ·063	− ·001	+ ·009	− ·018	−26	−1	−4	−10
Baghdad	+ ·016	+ ·031	− ·040	+ ·002	+3	+1	−12	−3
Leh	+ ·042	+ ·034	− ·015	+ ·020	+22	+14	−6	+10

Although the absolute humidity increases during the period over the whole of India due to the increasing influx of sea winds across the coasts, the relative humidity decreases owing to the rapid increase of temperature and the high temperature. Hence not only does the relative humidity decrease in Northern and Central India from March to May, but in the driest periods remarkably low humidities are recorded. The following gives the lowest humidities recorded at the driest stations during the period at 8 A.M. at third class observing stations and at 8 A.M., 10 A.M. or 4 P.M. at second class recording stations:—

Station.	March 1902.			April 1902.			May 1902.		
	Date.	Hour.	Lowest humidity.	Date.	Hour.	Lowest humidity.	Date.	Hour.	Lowest humidity.
			%			%			%
Nagpur	22nd	4 P.M.	8	29th	10A.M. and 4 P.M.	7	5th	4 P.M.	8
"	26th	"	8				6th	"	8
Akola	25th	"	5				7th	"	9
"	28th	"	5						
Buldana	26th	"	5	29th	4 P.M.	8	5th	"	5
							6th	"	9
Deesa	27th	"	6	28th	10A.M.	5	4th	"	
							5th	"	6
Belgaum	28th	"	8						
Khandwa	28th	"	7	29th	4 P.M.	7	7th	"	9
Meerut	30th	"	8	21st	"	5	7th	"	8
Roorkee	30th	"	3	21st	"	4			
Hazaribagh	30th	10A.M.	8						
Dehra Dun				21st	"	7			
				22nd	"	9			
Mount Abu							4th	10A.M.	8
							4th	8 A.M.	9
Pachmarhi				29th & 30th.	"	6	4th	4 P.M.	9
							5th	"	9
Chikalda							5th	"	8
							5th	10A.M.	9
Jaipur				26th	10A.M. and 4 P.M.	7	6th	4 P.M.	8
							7th	"	9

III.—The south-west monsoon period.—The variations in the humidity conditions of the period were determined by the variations in the strength and rain-giving capacity of the monsoon currents.

The Bombay current was much weaker than usual and very unsteady until the third week of August, when it increased in strength and volume and gave abundant rain over its field of extension until nearly the end of September. The Bay current was slightly weaker in June and July and normal in strength, but unsteady in August and September. The humidity conditions hence throughout the period differed very slightly from the normal over Burma and the greater part of North-Eastern India. In the north of the Peninsula, Central India, Chota Nagpur and Rajputana the air was, on the average of the period, much drier than usual. The humidity conditions were practically normal in September on the mean of the month over the whole of India.

The following gives comparative data for seventeen meteorological divisions for each month of the period and the whole period:—

Province or Division.	Variation of mean daily absolute humidity from normal in					Variation of mean daily relative humidity from normal in				
	June.	July.	August.	September.	Period, June to September.	June.	July.	August.	September.	Period, June to September.
	"	"	"	"	"					
Burma	+·006	+·011	+·012	+·008	+·009	—2	—2	—2	—2	—2
Bengal	+·013	-·006	+·014	+·012	+·008	—2	0	—3	—2	—2
Orissa	+·010	+·011	+·032	+·019	+·018	—2	0	0	—2	—1
Bihar	+·023	+·017	+·033	+·005	+·020	0	+1	—1	+2	+1
Chota Nagpur	—·069	—·029	-·015	+·039	-·019	—15	—5	—6	—2	—7
U. Prov. of Agra and Oudh.	—·051	—·015	—·005	+·025	—·012	—5	+2	—3	+3	—1
Punjab	—·007	—·028	—·065	+·022	—·020	0	—2	—8	+3	—2
Sind	+·030	+·067	+·021	+·049	+·042	+3	—3	—3	—1	—1
Rajputana	—·044	-·035	—·037	+·058	-·015	—5	—12	—11	+3	—6
Central Provinces	—·069	+·008	-·019	+·029	—·013	—14	—4	—8	+2	—6
Berar	—·076	+·015	—·034	+·015	-·020	—13	—3	—9	—1	—7
West Coast	—.007	+·012	+·015	+·013	+·008	—4	—2	—4	0	—3
Bombay Deccan	—·009	+·008	—·006	+·029	+·006	—4	—2	—6	+2	—3
Mysore	—·009	+·026	+·007	+·033	+·014	—5	0	—4	+4	—1
Madras Coast	+.029	+·043	+·073	+·077	+·056	—2	+1	+4	+6	+2
Madras Deccan	+.043	+·032	-·015	+·008	+·017	+3	+1	—5	0	0
South India	+·013	+·016	+·036	+·040	+·026	—4	+1	+1	+2	0

The data of the preceding table indicate that the abnormal dryness of the air due to the weakness of the Bombay current was most pronounced in June in an area including Berar, the Central Provinces, Chota Nagpur, Central India and the south-eastern and central districts of the United Provinces. The following gives humidity data of the month for twelve stations in this dry area :—

Station.	Variation from normal of			
	Mean daily.		Mean 8 A.M.	
	Absolute humidity.	Relative humidity.	Absolute humidity.	Relative. humidity.
	"		"	
Hazaribagh	—·069	—15	—·085	—17
Allahabad	—·117	—13	—·130	—17
Lucknow			—·099	—6
Nowgong			—·129	—18
Jubbulpore			—·065	—16
Khandwa	—·071	—13	—·042	—12
Nagpur	—·066	—14	—·055	—11
Chanda			—·080	—14
Raipur			—·169	—28
Sambalpur			+·038	—12
Akola	—·055	—10	—·073	—14
Buldana	—·096	—15		

In July, due to the increasing influence of the Bay current, the area of greatest deficiency in the mean humidity values of the month shifted westwards to Rajputana, North Bombay and Baluchistan.

The following table gives data for the stations at which the relative humidity was 10 or more in defect:—

Station.	Variation from normal of			
	Mean daily.		Mean 8 A.M.	
	Absolute humidity.	Relative humidity.	Absolute humidity.	Relative humidity.
	"		"	
Deesa	—·066	—18	—·022	—14
Mount Abu	—·006	—11	0	—8
Quetta	—·114	—11	—·042	—4
Bikaner			—·016	—7
Ahmedabad			—·019	—9
Pachpadra			+·016	—9

In August the area of greatest deficiency shifted northwards and included the greater part of the Punjab, Rajputana and Upper Sind (probably). A second area of large deficiency lay over Berar and a part of the Central Provinces. In the following table are given comparative

data for stations in these areas where the mean relative humidity of the month was at least 8 in defect :—

Station.	Variation from normal of			
	Mean daily.		Mean 8 A. M.	
	Absolute humidity.	Relative humidity.	Absolute humidity.	Relative humidity.
	"		"	
Peshawar	—·109	—12	—·097	—14
Rawalpindi			—·113	—18
Ludhiana	—·070	—11	—·040	—8
Jaipur	—·027	—11	—·024	—7
Deesa	—·047	—10	—·034	—8
Ahmedabad			—·025	—7
Sambhar			—·034	—9
Saugor			—·052	—11
Seoni			—·044	—11
Raipur			—·028	—9
Amraoti			—·046	—13
Khandwa	—·022	—9	—·019	—9
Akola	—·025	—8	—·023	—8

The humidity conditions in September were approximately normal, and the air was very slightly damper than usual over the greater part of the area.

IV.—The retreating south-west monsoon period.—The variations of the humidity conditions from the normal during this period were chiefly determined, firstly, by the early deflection of the retreating monsoon current from Burma and the east of the Bay to the Peninsula, secondly, by the heavy and late rains in Upper India in September, thirdly, by the advance of a series of feeble low pressure waves or depressions across Baluchistan into Upper India and, fourthly, by the establishment in December of conditions favouring a drier cold weather than usual.

The following gives variation data for each month of the period and the whole period for seventeen provinces :—

Province or Division.	Variation of mean daily absolute humidity from normal in				Variation of mean daily relative humidity from normal in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"	"				
Burma	—·001	—·035	—·035	—·024	—3	—7	—6	—5
Bengal	—·036	—·045	—·042	—·041	—5	—4	—5	—5
Orissa	—·018	—·034	—·012	—·021	—4	—2	—3	—3
Bihar	0	+·007	—·041	—·011	+1	+1	—5	—1
Chota Nagpur	—·027	—·024	—·042	—·031	—4	—5	—8	—6
U Prov. of Agra and Oudh	+·013	—·002	—·044	—·011	+2	0	—7	—2
Punjab	+·065	+·018	—·039	+·015	+6	+1	—6	0
Sind	+·134	+·105	—·003	+·079	+3	+6	—4	+2
Rajputana	+·067	—·007	—·041	+·006	+5	—4	—9	—3
Central Provinces	+·025	+·013	+·058	+·032	+1	+2	+8	+4
Berar	+·010	+·008	+·077	+·032	—1	+2	+10	+4
West Coast	+·019	+·003	+·072	+·031	—4	—4	+3	—2
Bombay Deccan	—·003	+·028	+·141	+·055	—2	+5	+19	+7
Mysore	+·009	+·040	+·102	+·050	0	+4	+10	+5
Madras Coast	+·031	+·045	+·052	+·046	+4	+2	+4	+3
Madras Deccan	—·002	+·025	+·071	+·031	—2	+3	+4	+2
South India	+·035	+·096	+·126	+·086	+4	+5	+9	+6

The early deflection of the Bay current from North Eastern India and Burma and the deficient and scanty rainfall in these areas in October was accompanied with and followed by drier weather than usual over the greater part of that area. The following gives variation data for representative stations :—

Station.	Variation of mean 8 A.M. absolute humidity from normal in				Variation of mean 8 A.M. relative humidity from normal in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"	"				
Diamond Island	+·020	—·026	—·006	—·004	0	—4	—3	—2
Rangoon	—·007	—·020	+·032	+ 00	—4	—6	0	—3
Mandalay	—·040	—·050	—·017	—·036	0	—3	—5	—3
Saugor Island	—·019	—·011	—·038	—·023	—4	0	—5	—3
Calcutta	+·014	—·00	—·023	—·003	0	+2	—4	—1
False point	—·019	—·043	—·001	—·020	—4	—2	—2	—3
Jessore	—·019	—·042	—·046	—·036	+2	0	—6	—1
Berhampore	—·026	—·002	—·032	—·020	—3	—2	—7	—4
Dhubri	—·038	—·025	—·020	—·028	—1	—2	+1	—1

Humidity was more or less considerably above the normal in Upper India and Baluchistan in October and November, but fell considerably below it in December in the Punjab as the result of the third and fourth actions or conditions stated above.

The following gives comparative data illustrating these features :—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from normal in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"	"				
Peshawar	+·077	+·044	—·029	+·031	+4	+3	—3	+1
Lahore	+·116	+·030	—·034	+·037	+11	+3	+3	+6
Mooltan	+·080	—·001	—·050	+·010	+9	—4	—6	0
Jacobabad	+·211	+·096	+·014	+·107	+20	+14	+11	+15
Simla	+·029	+·003	—·013	+·006	+9	+2	—4	+2
Murree	+·045	+·029	—·024	+·017	+11	+7	—11	+2
Quetta	+·060	+·060	+·006	+·042	+13	+17	+9	+13

The most important feature was the steady excess of the humidity values in the Peninsula throughout the period, increasing in amount from October to December.

The following gives comparative data for twelve stations in that area, month by month, during the period :—

Station.	Variation of mean absolute humidity from normal in				Variation of mean relative humidity from nromal in			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"	"				
Khandwa	+·078	+·065	+·079	+·074	+7	+11	+12	+10
Akola	+·057	+·034	+·108	+·066	+4	+5	+15	+8
Poona	+·061	+·063	+·153	+·092	+5	+13	+25	+14
Belgaum	+·036	+·081	+·173	+·097	+3	+10	+26	+13
Sholapur	+·010	+·053	+·148	+·070	—1	+8	+20	+9
Bellary	+·016	—·050	+·068	+·045	+3	+8	+4	+5
Madras	+·001	+·023	+·065	+·030	+1	+1	+4	+2
Chitaldroog	—·005	—·047	+·131	+·058	—1	+9	+15	+8
Bangalore	+·005	+·050	+·080	+·045	—1	+7	+7	+4
Mercara	+·012	+·068	+·096	+·059	+1	+11	+10	+7
Trichinopoly	+·033	+·053	+·108	+·065	+5	+7	+12	+8
Madura	+·035	+·048	+·094	+·059	+4	+4	+8	+5

The year.—The following are the more important features of the mean humidity conditions during the year 1902 in India :—

(*1*)—On the mean of the year the humidity of the whole of India was in very slight defect, a consequence solely of the unusually high temperatures of the year, for the vapour pressure was in excess by 003".

(*2*)—In Extra Tropical India the relative and absolute humidities were both in slight defect.

(*3*)—In Tropical India, on the other hand, the amount of vapour in the air was greater than usual, more especially in the coast districts, but the increased temperatures prevailing in that region sufficed to reduce the humidity to below the normal on the average of the whole area.

(*4*). On the mean of the year the relative humidity was most largely in defect in the Punjab and Rajputana. The following gives comparative data for stations at which the mean humidity of the year was more than 3 in defect:—

Station.	Absolute humidity.		Relative humidity.	
	Actual, 1902.	Variation of actual from normal.	Actual, 1902.	Variation of actual from normal.
	"	"	%	
Dehra Dun	·442	—·027	57	—6
Meerut	·483	—·030	53	—5
Ranikhet	·328	—·016	60	—5
Ludhiana	·459	—·047	50	—8
Peshawar	·413	—·012	48	—5
Simla	·263	—·026	56	—4
Jaipur	·454	—·010	43	—6
Deesa	·463	—·017	41	—4
Buldana	·436	—·030	47	—5
Nagpur	·497	—·031	49	—5

The following gives the mean annual variations of the mean aqueous vapour pressure and humidity of the whole of India from the normal for each year from 1875 to 1902 :—

Year.	Annual variation of pressure of vapour.	Annual variation of relative humidity.
	"	
1875	—·004	+1
1876	—·017	—1
1877	+·011	+1
1878	+·020	0
1879	—·014	—1
1880	—·004	0
1881	+·001	0
1882	—·008	0
1883	—·013	—1
1884	—·012	0
1885	+·001	0
1886	+·008	+1
1887	—·012	—1
1888	—·005	—1
1889	+·003	—1
1890	—·003	—1
1891	—·007	0
1892	—·002	—1
1893	+·007	+3
1894	+·013	+2
1895	+·003	0
1896	—·010	—3
1897	+·005	—1
1898	—·008	—2
1899	—·026	—5
1900	+·002	—2
1901	+·002	—1
1902	+.003	—2

Cloud.

Normal values of the mean monthly and annual amount of cloud at second class stations, obtained from the whole of the available data up to the end of the year 1896, were given in Table XXI of the Annual Summary of 1896. These means are the arithmetical averages of the cloud amounts as registered at 10 A.M. and 4 P.M., and hence represent the mean amount during the day period rather than of the whole 24 hours. Corrections to reduce these means to true daily means have only been obtained in the case of a few stations.

Variation data of this element of meteorological observation for the year 1902 are given in Tables XXVII, XXVIII and XXIX. Table XXVIII gives the mean variation data for the sixteen meteorological areas adopted in the geographical summaries of meteorological data in the Annual Reports previous to 1891, and Table XXIX gives similar data for nine meteorological provinces of India.

TABLE XXVII.—*Comparison of the mean cloud proportion in each month of 1902 with the averages of past years.*

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Burma Coast and Bay Islands.	Port Blair	+0·9	+1·4	+0·2	−0·8	+0·6	−0·3	−1·1	+0·3	0	−1·2	+0·4	−0·2	0
	Rangoon	+2·2	+1·5	+0·5	+0·4	+0·3	−0·9	−0·1	−0·3	−0·6	−0·8	−0·7	+1·6	+0·3
	Diamond Island	+0·8	−0·2	−1·0	−0·5	+0·2	−0·8	+0·3	−0·7	−0·5	−1·7	−1·2	+0·1	−0·4
	Cocos Island	+1·3	+0·9	+0·1	−0·4	+0·4	−0·4	?	?	?	?	?	?	?
	Akyab	−1·2	−0·1	−0·5	+0·9	+0·1	+0·7	+0·5	−0·7	−0·2	−2·1	−1·9	−1·8	−0·5
Bengal and Orissa	Chittagong	−1·1	−0·1	−0·7	+1·6	+0·2	+0·5	+0·8	−0·4	+0·7	−0·9	−1·3	−0·7	−0·1
	Calcutta (Alipore)	−0·7	−0·2	−0·3	+2·2	+0·2	+0·7	+0·9	−0·1	+0·5	0	−1·1	+0·3	+0·2
	Saugor Island	−0·5	+0·4	−0·5	+1·9	+0·6	+0·2	+0·7	+0·1	+0·4	0	−0·4	+0·4	+0·3
	False Point	0	+0·4	−0·4	+1·8	+1·2	+0·2	+0·4	−0·2	+0·3	−0·2	+0·2	+0·6	+0·4
Gangetic Plain and Chota Nagpur.	Hazaribagh	−0·8	+0·3	−0·8	+2·2	+0·9	+0·6	+0·7	+0·8	+0·6	+0·3	−0·8	+0·7	+0·4
	Darbhanga	−0·5	−1·0	−0·5	+0·6	+0·1	+0·5	+0·1	+0·4	+0·8	0	−0·6	−0·1	0
	Allahabad	0	−0·1	−0·2	+1·5	+0·2	−2·1	+0·9	−0·3	+1·7	+1·0	−0·3	+0·2	+0·2
Upper Sub-Himalayas.	Dehra Dun	−2·8	−2·3	+0·4	+1·3	+0·8	−1·7	+0·4	−0·6	+1·0	+1·2	+0·5	−0·9	−0·2
	Roorkee	−2·4	−2·3	+0·2	+0·4	−0·7	−1·8	−0·2	−1·8	+0·3	+0·7	−0·1	−1·4	−0·8
	Meerut	−2·0	−2·0	−0·4	+1·2	+0·9	+2·0	+0·8	−1·6	+0·4	+0·3	0	−1·1	−0·1
	Lahore	−1·4	−2·1	+0·3	+1·5	−0·9	−1·3	−1·4	−1·1	+0·2	+0·1	+0·3	−1·1	−0·6
	Ludhiana	−2·9	−2·7	−0·9	−0·1	−1·1	−1·3	−1·5	−2·4	−0·1	+0·3	−0·1	−1·9	−1·2
North-West Frontier, Indus Valley and North-West Rajputana.	Peshawar	−2·5	−0·8	−0·2	+1·0	0	−0·8	−0·5	−0·9	+0·1	+1·1	+1·2	−1·4	−0·3
	Jacobabad	−0·6	−1·9	+0·3	+0·2	−0·4	+0·7	−0·9	−0·3	+0·6	+1·0	+0·3	−1·0	−0·2
	Kurrachee	−1·9	−1·7	−1·3	+0·4	−0·3	−0·5	−3·0	−2·8	−1·5	+0·7	−0·7	−1·0	−1·1
East Rajputana, Central India and Gujarat.	Jaipur	−0·3	−1·2	−0·5	+1·2	−0·5	−1·7	−0·4	−1·7	+1·1	+1·5	−0·5	−0·6	−0·3
	Deesa	−1·3	−1·6	−1·3	+0·2	−0·8	−1·5	−1·6	−1·4	−0·5	−0·7	−1·3	−0·4	−1·0

TABLE XXVII.—*Comparison of the mean cloud proportion in each month of 1902 with the averages of past year*—concld.

Meteorological Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Deccan	Belgaum	−0·1	+1·4	−0·6	−0·5	+0·6	−1·1	+0·3	−1·4	+0·4	+0·9	+1·6	+2·7	+0·4
	Sholapur	0	+1·1	−1·0	−0·9	0	−0·5	+0·1	−0·7	−0·3	+0·4	+1·1	+2·9	+0·2
	Akola	+0·4	+0·8	−1·5	−0·1	+0·5	−1·7	−0·1	−1·2	+0·3	+1·9	+0·1	+2·2	+0·1
	Buldana	−1·0	+0·3	−2·1	−1·3	−1·7	−3·6	−0·2	−0·9	+0·9	+1·2	−0·5	+1·3	−0·6
	Khandwa	+0·2	+1·2	−1·3	−0·3	−0·1	−1·5	−0·3	−1·1	+1·4	+1·6	+0·2	+2·6	+0·2
	Nagpur	−0·1	+0·7	−2·1	−0·2	−0·3	−2·8	−0·2	−1·4	−0·4	+0·3	−0·8	+1·5	−0·5
	Hyderabad (Deccan)	0	+0·8	−0·4	+0·7	+1·4	0	+0·1	+0·6	+0·3	+0·7	+1·9	+2·5	+0·7
West Coast	Bombay	−0·9	+1·3	−1·3	−1·0	−1·4	−1·9	−0·3	−1·0	−0·5	0	−0·1	+1·7	−0·5
	Karwar	−0·3	+0·6	−0·3	−1·4	−1·4	−1·3	+1·2	−1·3	+0·5	−0·3	+0·3	+1·8	−0·2
South India	Salem	+0·5	+0·8	+0·6	+2·1	+0·4	+0·2	+1·3	+0·8	+1·3	+1·1	+2·2	+2·7	+1·2
	Chitaldroog	−0·4	+0·6	−0·8	+0·4	+0·2	−1·1	+0·1	−0·8	−0·3	−0·4	+1·7	+1·8	+0·1
	Bangalore	−0·7	−0·4	−0·9	+1·1	0	+0·4	+1·6	+1·3	+1·4	−0·4	+0·8	+1·6	+0·5
	Hassan	−0·6	+0·3	−0·4	+0·9	+1·0	−0·5	+0·1	−0·6	+0·2	0	+1·1	+2·6	+0·3
	Mysore	−0·3	+2·5	+1·2	+2·7	+1·7	+0·5	+0·3	+0·8	+1·4	+1·3	+2·3	+2·8	+1·4
	Madras	−0·7	+0·1	−0·5	+0·6	−0·5	−0·9	−0·4	+0·2	0	−0·1	+0·5	+0·6	−0·1
	Bellary	+0·8	+1·2	−0·7	+0·2	−1·5	−2·1	−1·5	−0·5	−1·1	−0·2	+0·7	+1·8	−0·2
Hill Station, Baluchistan.	Quetta	−1·7	−1·1	0	+0·6	−0·2	+0·1	−0·9	−0·1	+0·1	+1·4	+0·3	+1·1	0
Hill Stations, Northern India.	Leh	−1·8	−2·5	+0·1	+0·8	−0·7	+0·5	0	−0·9	−0·6	+0·6	−0·6	−2·7	−0·7
	Srinagar	−4·6	−3·1	+0·1	+2·2	+0·2	−0·5	+0·3	−0·4	−0·6	+0·5	+1·1	−3·3	−0·7
	Kailang	−2·0	−1·8	+1·4	+1·3	−0·2	+0·1	+0·4	+0·1	+0·5	+1·2	+0·4	?	?
	Simla (Ridge)	−3·1	−2·4	+0·9	+0·5	−0·5	−0·9	+0·2	−1·8	+1·0	+1·9	+0·2	−1·9	−0·5
	Chakrata	−2·2	−2·1	+1·2	+0·6	+0·2	−0·5	0	−0·6	+0·8	+1·9	+0·7	−1·2	−0·1
	Ranikhet	−1·9	−3·0	+0·5	+0·6	−0·4	−2·1	+0·6	−0·7	+1·3	+0·9	−0·3	−1·6	−0·5
	Katmandu	−1·3	−1·9	−0·1	+0·8	+0·9	+0·5	+1·1	+0·2	+0·7	+1·3	−1·4	−1·7	−0·1
	Darjeeling	−1·4	−0·6	−0·8	+0·9	−0·5	−0·8	−0·9	−1·6	−0·8	+0·3	−0·3	−1·0	−0·6
Hill Stations, Central India.	Mount Abu	−1·1	−1·2	−0·7	+1·0	−0·4	−0·4	−1·4	−0·9	+0·5	+0·5	−1·1	+0·3	−0·4
	Pachmarhi	−0·1	+0·6	−1·2	+0·1	−0·6	−2·7	−0·5	−1·8	−0·1	+1·1	−0·4	+2·0	−0·3
	Chikalda	−0·8	+0·3	−2·2	−0·5	0	−1·8	−2·1	−1·9	−0·4	+1·2	−0·4	+1·5	−0·6
Hill Station, South India.	Wellington	−0·6	−0·3	+0·3	?	?	?	?	?	?	?	?	?	?
Extra India	Aden	−0·7	−0·4	−1·8	+0·4	?	+1·1	?	+1·8	+4·0?	+5·0?	−0·4	−1·0	?
	Perim	−1·6	−1·1	−1·5	+0·1	−1·4	−0·6	−2·1	−2·1	−2·0	−1·0	−1·5	−1·3	−1·3
	Zanzibar	+1·0	+1·5	+1·1	+1·6	+0·2	+0·6	+0·8	+1·3	+1·0	+1·7	+1·6	+3·3	+1·3
	Port Victoria (Seychelles)	0	−0·6	−1·1	−0·8	+0·6	−1·4	−0·2	+0·5	−0·2	+0·2	0	−0·7	−0·3

TABLE XXVIII.—*Geographical summary of the cloud data of Table II in the monthly weather reviews of 1902.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalaya	5—6	—2·6	—2·5	+0·7	+1·0	—0·2	—0·6	+0·3	—0·7	+0·4	+1·2	+0·3	—2·1	—0·4
Sikim Himalaya and Nepal . . .	2	—1·4	—1·3	—0·5	+0·9	+0·2	—0·2	+0·1	—0·7	—0·1	+0·8	—0·9	—1·4	—0·4
Punjab Plains	3	—2·3	—1·9	—0·3	+0·8	—0·7	—1·1	—1·1	—1·5	+0·1	+0·5	+0·5	—1·5	—0·7
Gangetic Plain	5	—1·5	—1·5	—0·1	+1·0	+0·3	—0·6	+0·4	—0·8	+0·8	+0·6	—0·1	—0·7	—0·2
Western Rajputana	4	—1·2	—1·6	—0·8	+0·5	—0·5	—0·4	—1·7	—1·4	—0·2	+0·4	—0·7	—0·5	—0·7
Eastern Rajputana and Central India . .	1	—0·3	—1·2	—0·5	+1·2	—0·5	—1·7	—0·4	—1·7	+1·1	+1·5	—0·5	—0·6	—0·3
Nerbudda Valley	1	+0·2	+1·2	—1·3	—0·3	—0·1	—1·5	—0·3	—1·1	+1·4	+1·6	+0·2	+2·6	+0·2
Chota Nagpur	1	—0·8	+0·3	—0·8	+2·2	+0·9	+0·6	+0·7	+0·8	+0·6	+0·3	—0·8	+0·7	+0·4
Lower Bengal	2	—0·6	+0·1	—0·4	+2·1	+0·4	+0·5	+0·8	0	+0·5	0	—0·8	+0·4	+0·3
Orissa	1	0	+0·4	—0·4	+1·8	+1·2	+0·2	+0·4	—0·2	+0·3	—0·2	+0·2	+0·6	+0·4
Central Provinces (South) and Berar . .	5	—0·3	+0·5	—1·8	—0·4	—0·4	—2·5	—0·6	—1·4	+0·1	+1·1	—0·4	+1·7	—0·4
Konkan	2	—0·6	+1·0	—0·8	—1·2	—1·4	—1·6	+0·5	—1·2	0	—0·2	+0·1	+1·8	—0·3
Deccan, Hyderabad and Mysore . .	8	—0·2	+0·9	—0·5	+0·6	+0·4	—0·6	+0·1	—0·2	+0·3	+0·3	+1·4	+2·3	+0·4
East Coast and Carnatic	2	—0·1	+0·5	+0·1	+1·4	—0·1	—0·4	+0·5	+0·5	+0·7	+0·5	+1·4	+1·7	+0·6
Arakan and Pegu	4	+0·2	+0·3	—0·4	+0·6	+0·2	—0·1	+0·4	—0·5	—0·2	—1·4	—1·3	—0·2	—0·2
Bay Islands	1—2	+1·1	+1·2	+0·2	—0·6	+0·5	—0·4	—1·1	+0·3	0	—1·2	+0·4	—0·2	0
Extra-Tropical India	25—26	—1·5	—1·4	—0·2	+1·0	—0·1	—0·5	—0·2	—0·8	+0·4	+0·7	—0·2	—0·8	—0·3
Tropical India	22—24	—0·1	+0·7	—0·6	+0·2	0	—1·0	0	—0·5	+0·1	+0·1	+0·3	+1·5	+0·1
Whole India	47—50	—0·8	—0·4	—0·4	+0·6	0	—0·7	—0·1	—0·7	+0·3	+0·4	+0·1	+0·3	—0·1

TABLE XXIX.—*Variations of the mean cloud amount from the normal in nine meteorological provinces of India in 1902.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands	+0·8	+0·7	—0·1	—0·1	+0·3	—0·3	—0·1	—0·4	—0·3	—1·5	—0·9	—0·1	—0·2
Bengal and Orissa	—0·6	+0·1	—0·5	+1·9	+0·6	+0·4	+0·7	—0·2	+0·5	—0·3	—0·7	+0·2	+0·2
Gangetic Plain and Chota Nagpur . . .	—0·4	—0·3	—0·5	+1·4	+0·4	—0·3	+0·6	+0·3	+1·0	+0·4	—0·6	+0·3	+0·2
Upper Sub-Himalayas	—2·3	—2·3	—0·1	+0·9	—0·2	—0·8	—0·4	—1·5	+0·4	+0·5	+0·1	—1·3	—0·6
North-West Frontier Province, Indus Valley and North-West Rajputana.	—1·7	—1·5	—0·4	+0·5	—0·2	—0·2	—1·5	—1·3	—0·3	+0·9	+0·3	—1·1	—0·5
East Rajputana, Central India and Gujarat .	—0·8	—1·4	—0·9	+0·7	—0·7	—1·6	—1·0	—1·6	+0·3	+0·4	—0·9	—0·5	—0·7
Deccan	—0·1	+0·9	—1·3	—0·4	+0·1	—1·6	0	—0·9	+0·4	+1·0	+0·5	+2·2	+0·1
West Coast	—0·6	+1·0	—0·8	—1·2	—1·4	—1·6	+0·5	—1·2	0	—0·2	+0·1	+1·8	—0·3
South India	—0·2	+0·7	—	+1·3	+0·2	—0·5	+0·2	+0·2	+0·4	+0·2	+1·3	+2·0	+0·5

I. The cold weather period.—The cold weather season of 1902 was unusually dry and free from cold weather storms. There was hence less cloud than usual over the whole of Northern India and Upper Burma and more cloud than usual in Lower Burma and the greater part of the Peninsula. The deficiency was very marked in the month of January in the submontane and hill districts of the Punjab and Ladakh where it ranged between 1·8 and 4·6.

The following gives data for stations in this area of decreased cloud amount:—

Station.	Cloud. Actual 8 A.M., January 1902.	Normal 8 A.M., January.	Variation of actual from normal 8 A.M., January 1902.	Variation of actual from normal 10 and 16 hrs., January 1902.
Leh	4·3	6·7	−2·4	−1·8
Srinagar	3·7	7·9	−4·2	−4·6
Murree	3·1	5·3	−2·2	
Ludhiana	1·4	4·5	−3·1	−2·9
Umballa	1·2	3·4	−2·2	
Simla	2·3	4·7	−2·4	−3·1
Delhi	1·2	3·6	−2·4	
Chakrata	1·5	4·1	−2·6	−2·2
Mussooree	1·0	3·9	−2·9	
Dehra Dun	1·3	4·7	−3·4	−2·8
Roorkee	0·6	3·0	−2·4	−2·4

The variations of the mean cloud amount of the month of January were small and irregular over the whole of the Peninsula, Central India and the greater part of North-Eastern India.

In February also there was less cloud than usual over the whole of Northern or Extra-Tropical India, the eastern districts of the Central Provinces and Upper Burma. The deficiency was largest in amount in the hill and submontane districts of Upper India, but was less marked than in January. The following gives variation data for stations at which it was greatest in actual amount:—

Station.	Cloud. Actual 8 A.M., February 1902.	Normal 8 A.M., February.	Variation of actual from normal 8 A.M., February 1902.	Variation of actual from normal 10 and 16 hrs., February 1902.
Leh	4·3	6·0	−1·7	−2·5
Srinagar	3·7	7·6	−3·9	−3·1
Murree	3·1	4·8	−1·7	
Ludhiana	2·0	4·5	−2·5	−2·7
Umballa	1·5	3·4	−1·9	
Simla	3·2	4·5	−1·3	−2·4
Delhi	0·6	3·7	−3·1?	
Chakrata	2·4	3·6	−1·2	−2·8
Mussooree	2·4	3·7	−1·3	
Dehra Dun	2·3	3·8	−1·5	−2·3
Roorkee	1·4	3·3	−1·9	−2·3

Cloud was, on the other hand, in general excess in the Peninsula and Lower and Central Burma. This feature of increased cloud in the Peninsula was noteworthy, as practically no rain fell over that area, and the rainfall of the month was in general defect.

Skies were hence, on the mean of the period, less clouded than usual over the whole of Northern India and Upper Burma. There was, on the other hand, slightly more cloud than usual in Orissa, Gujarat and Central India. The following gives comparative data:—

Province or Division.	Variation of cloud amount from normal in: January, 8 A.M.	February, 8 A.M.	Period, January and February (8 A.M.).	Period, January and February (10 and 16 hours).
Upper Burma	−0·4	−0·3	−0·4	
Assam	−1·4	−1·0	−1·2	
Bengal	−0·6	−0·8	−0·7	−0·4
Orissa	+0·5	0	+0·3	+0·2
Bihar	−0·6	−0·8	−0·7	−0·5
Chota Nagpur	−0·8	−0·3	−0·6	−0·3
United Provinces of Agra and Oudh	−1·3	−1·2	−1·3	−1·8
Punjab	−2·2	−1·5	−1·9	−2·1
Sind	−1·0	−1·7	−1·4	−1·6
Rajputana	−1·2	−1·8	−1·5	−1·1
Gujarat	−0·1	+0·3	+0·1	
Central India	+0·4	+0·9	+0·7	

The cloud conditions were inverse in the two months over the southern half of the Peninsula, and hence on the mean of the period the amount of cloud was practically normal. The amount of cloud varied vary slightly from the normal in the northern half of that area and Lower Burma.

The following gives comparative data for these areas :—

Area.	Variation of cloud amount from normal in			
	January, 8 A.M.	February, 8 A.M.	Period, January and February (8A.M.)	Period, January and February (10 and 16 hours).
Lower Burma	+0·5	+0·7	+0·6	+1·1
West Coast	+0·1	+0·6	+0·4	+0·2
Berar	+0·8	+1·3	+1·1	+0·2
Central Provinces	+0·3	+0·3	+0·3	+0·6
Bombay Deccan	+0·7	+1·7	+1·2	+0·6
Mysore	−0·5	+0·8	+0·2	+0·2
Madras Coast	−0·4	+0·3	−0·1	−0·3
Madras Deccan	+0·4	+0·7	+0·6	+0·7
South India	−0·8	+0·9	+0·1	+0·7

II. The hot weather period.—The variations from the normal of the cloud amount during this period were somewhat irregular. In March cloud was locally in excess in the hill and submontane districts of the Punjab and United Provinces, where weather was somewhat more disturbed than usual. Over the remainder of India there was even less cloud than usual.

In April skies were more clouded than usual over the whole of Northern India, North Madras and Upper and Central Burma. Cloud was, on the other hand, below the normal over the Peninsula and Lower Burma. The excess was pronounced in Bengal, Assam, Chota Nagpur and Orissa, which received unusually frequent rain from series of thunderstorms.

The variations of the amount of cloud were small in May. Cloud was normal or in slight excess in Burma, North Eastern India and the eastern and southern districts of the Peninsula and in defect elsewhere. On the average of the whole period skies were throughout slightly less clouded than usual over the south of the Peninsula. The following gives data :—

Station.	Variation of 8 A. M. cloud amount from normal in			
	March.	April.	May.	Period, March to May.
Trichinopoly	−0·4	−2·0	−0·9	−1·1
Madras	−0·7	−0·2	−0·6	−0·5
Bangalore	−0·9	−0·5	−0·1	−0·5

There was, on the mean of the period, a moderate excess of cloud in North-Eastern India, North Madras, the United Provinces and the Punjab, chiefly due to unusually large amount of cloud in April. The cloud amount was normal in Burma, Assam, Chota Nagpur and Rajputana. The following gives comparative data :—

Area.	Variation of 8 A.M. cloud amount from normal in			
	March.	April.	May	Period, March to May.
Burma	−0·1	+0·2	0	0
Assam	−0·7	+1·3	−0·6	0
Bengal	−0·1	+1·5	−0·2	+0·4
Orissa	+0·2	+1·6	+0·5	+0·8
Bihar	−0·3	+0·9	+0·1	+0·2
Chota Nagpur	−0·9	+1·1	−0·3	0
United Provinces of Agra and Oudh.	+0·1	+1·3	+0·8	+0·7
North Madras	−0·7	+1·2	+0·3	+0·3
Punjab	0	+0·7	−0·2	+0·2
Rajputana	−0·3	+0·6	−0·2	0

Skies were throughout the whole period even more free from cloud than usual over the Peninsula, as shewn by the following data :—

Area.	Variation of 8 A.M. cloud amount from normal in			
	March.	April.	May.	Period, March to May.
Sind	−0·4	+0·3	−0·5	−0·2
Gujarat	−1·1	−0·2	−0·2	−0·5
Central Provinces	−1·3	−0·7	−0·2	−0·7
Berar	−1·5	−1·0	−0·3	−0·9
West Coast	−0·8	−1·0	−0·3	−0·5
Bombay Deccan	−1·0	−1·2	−0·5	−0·9
Mysore	−0·6	−0·7	−0·2	−0·5
Madras Coast	−0·8	+0·1	0	−0·2
Madras Deccan	−0·6	−0·7	−0·2	−0·5
South India	−0·1	−0·4	+0·3	−0·1

Skies were more clouded in April and on the mean of the period in the mountain and submontane districts of Upper

India. The following comparative data for eight stations illustrate this feature :—

Station.	Variation of 8 A.M. cloud amount from normal in			
	March.	April.	May.	Period, March to May.
Gilgit	+0·5	+2·1	0	+0·9
Leh	−0·5	+0·3	−0·8	−0·3
Srinagar	−0·2	+0·9	−0·3	+0·1
Murree	−0·2	+1·1	−0·7	+0·1
Simla	+1·7	+1·0	−0·2	+0·8
Chakrata	+1·3	+1·5	+0·4	+1·1
Cherat	−1·2	+0·4	−0·4	−0·4
Quetta	0	+1·1	−0·5	+0·2

III. The south-west monsoon period.—The cloud data show in the clearest manner the most characteristic differences between the strength and rain-giving capacity of the two monsoon currents. The Bombay current was weak and irregular and the accompanying rainfall largely in defect from the beginning of June to the 18th or 19th of August, when it increased considerably and gave good to abundant rain over the greater part of its field of extension. There was less cloud than usual over practically the whole area of the Bombay current in June, July and August and about the normal amount in September. The area of greatest deficiency of cloud in June included the Central Provinces, Berar and the south-eastern districts of the United Provinces, where the deficiency ranged between 2·0 and 4·2.

The following gives comparative data for stations in that area :—

Station.	Variation of 8 A.M. cloud amount from normal in				
	June.	July.	August.	September.	Period, June to September.
Allahabad	−4·0	+0·5	−1·3	+1·8	−0·7
Benares	−2·6	+0·6	−0·4	+0·9	−0·4
Jubbulpore	−4·2	−0·4	−3·2	−0·7	−2·1
Khandwa	−3·2	0	−2·9	+1·2	−1·2
Nagpur	−8·3	−0·2	−1·9	+0·3	−1·3
Chanda	−3·7	−0·7	−2·2	+1·2	−1·4
Akola	−3·0	+0·7	−2·2	+1·1	−0·9
Raipur	−2·6	−1·1	−3·5	−2·6?	−2·5
Sambalpur	−5·2?	−0·9	−1·8	+0·5	−1·9

The area of greatest deficiency of cloud was transferred to Gujarat, Rajputana and Sind in July and to the Central Provinces and Berar in August, as is shown by the following data :—

Station.	Variation of 8 A.M. cloud amount from normal in				
	June.	July.	August.	September.	Period, June to September.
Hyderabad	−0·9	−3·9	−2·3	+0·5	−1·7
Bikaner	−0·4	−2·6	−2·1	+0·4	−1·2
Deesa	−1·8	−2·3	−1·5	+0·5	−1·3
Pachpadra	−3·4?	−7·3?	−5·9?	−0·5	−4·3?
Jubbulpore	−4·2	−0·4	−3·2	−0·7	−2·1
Nagpur	−3·3	−0·2	−1·9	+0·3	−1·3
Raipur	−2·6	−1·1	−3·5	−2·6	−2·5
Akola	−3·0	+0·7	−2·2	+1·1	−0·9

The amount of cloud was, on the mean of the period, less than usual over the area dominated by the Bombay current.

The following gives comparative data for the usual area of the prevalence of the Bombay current :—

Area.	Variation of 8 A.M. cloud amount from normal in				
	June.	July.	August.	September.	Period, June to September.
Punjab	−0·7	−0·4	−1·4	+0·7	−0·5
Sind	−0·2	−2·1	−1·1	−0·2	−0·9
Rajputana	−1·4	−1·1	−1·6	+0·9	−0·8
Gujarat	−1·3	−0·8	−1·5	+0·3	−0·8
Central India	−1·4	−0·2	−0·5	+1·0	−0·3
Central Provinces	−3·1	−0·3	−2·5	+0·1	−1·5
Berar	−3·0	+0·4	−2·1	+0·8	−1·0
West Coast	−0·3	+0·6	−0·5	+0·3	0
Bombay Deccan	−1·0	+0·1	−0·3	+0·1	−0·5
Mysore	−0·7	+0·4	−0·3	+0·1	−0·1
Madras Coast	−0·5	+0·1	0	−0·1	−0·1
Madras Deccan	−1·5	−1·0	−1·4	−0·9	−1·2
South India	−1·1	−0·3	−1·0	−0·4	−0·7

The deficiency was hence greatest in the Central Provinces and Madras Deccan.

There was also a slight deficiency of cloud in Burma, North-Eastern India and the United Provinces, that is over practically the whole field of the Bay current. The varia-

tions were small and changed slightly from month to month. The following gives comparative data :—

Area.	Variation of 8 A.M. cloud amount from normal in				
	June.	July.	August.	September	Period, June to September.
Burma	−0·8	−0·1	−0·6	−0·1	−0·4
Assam	+0·5	−0·4	−0·7	+0·1	−0·1
Bengal	+0·1	+0·1	−0·6	+0·4	0
Orissa	−0·2	+0·4	−0·5	−0·3	−0·2
Bihar	−1·5	−0·4	−0·4	+1·2	−0·3
Chota Nagpur	−0·8	+0·1	−0·4	+0·8	−0·1
United Provinces of Agra and Oudh.	−1·8	+0·1	−1·2	+1·6	−0·3

IV. The retreating south-west monsoon period.—The chief features of the meteorology of this period were (1) the early withdrawal of the humid monsoon currents from North-Eastern India and Burma, (2) the heavy and abundant rainfall over the greater part of the Peninsula due to the unusually steady determination of the monsoon current from the middle of October to December to the west and south-west coasts of the Bay, (3) the occurrence of three storms in the Arabian Sea in October and December which gave much cloud and rain in the west coast districts and the Deccan, (4) the frequent passage of shallow cold weather depressions in October and November across Baluchistan into Upper India giving cloud but little or no rain, followed by finer and drier weather than usual in December. The cloud distribution of the period was in strict accordance with these features.

Cloud was steadily in defect over North-Eastern India and Burma in October and November. It was in slight excess in Bengal in December and, on the mean of the whole period, was practically normal except in Burma, where it was in slight defect. The following table gives comparative data :—

Area.	Variation of 8 A.M. cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Burma	−·12	−1·5	−0·7	−1·1
Assam	+0·7	−0·8	−0·8	−0·3
Bengal	−0·1	−0·5	+0·9	+0·1
Orissa	−1·0	−0·2	+1·3	0
Bihar	+0·1	−0·4	+0·5	+0·1
Chota Nagpur	−0·3	−0·6	+1·0	0
United Provinces of Agra and Oudh.	+0·4	−0·5	−0·6	−0·2

It was, on the other hand, more or less largely above the normal in the Peninsula and Central Provinces. The following gives comparative data for twelve stations :—

Station.	Variation of 8 A.M. cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Khandwa	+1·0	+0·8	+2·8	+1·5
Amraoti	+2·1	+0·7	+2·4	+1·7
Sholapur	+0·6	+2·7	+4·0	+2·4
Marmugao	+2·0	+2·0	+2·7	+2·2
Mangalore	−0·2	+2·2	+2·2	+1·4
Calicut	+0·6	+2·4	+2·6	+1·9
Cochin	+0·1	+1·2	+1·8	+1·0
Bangalore	−0·5	+2·6	+2·7	+1·6
Belgaum	+1·6	+2·0	+3·2	+2·3
Hassan	−0·4	+1·9	+3·6	+1·7
Trichinopoly	−0·2	+1·6	+0·7	+0·7
Tinnevelly	−0·3	+2·4	+1·4	+1·2

Cloud was in slight excess during the period in Gujarat and Kathiawar and in slight defect in South-West Rajputana, the area where the rains due to the Bombay current had been most scanty in June and July. The following gives data :—

Area.	Variation of 8 A.M. cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Gujarat	+0·4	−0·7	+0·6	+0·1
Kathiawar	+0·5	−0·4	+0·5	+0·2
South-West Rajputana	+0·2	−0·7	−0·8	−0·4

Cloud was in slight to moderate excess in Upper India, Baluchistan and the Western Himalayas, *i.e.*, in the area affected by the feeble cold weather depressions in October and November, but was in general slight to moderate defect in the same areas in

December. The following gives comparative data for eleven stations in these areas :—

Station.	Variation of 8 A.M. cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Quetta	+1·2	−0·1	−1·5	−0·1
Srinagar	+0·5	+1·4	−4·1	−0·7
Murree	+1·0	−1·2	−2·2	−0·8
Leh	+1·1	−0·5	−3·4	−0·9
Peshawar	+1·2	−0·4	−1·3	−0·2
Lahore	+0·2	+0·2	−1·3	−0·3
Mooltan	+0·9	+0·2	−1·5	−0·1
Bikaner	+0·9	+0·2	−1·5	−0·1
Simla	+1·1	−0·2	−1·4	−0·2
Dehra Dun	+0·8	−0·6	−1·8	−0·5
Roorkee	+0·7	−0·3	−1·2	−0·3

The following gives comparative data of the period for the chief meteorological divisions :—

Province or Division.	Variation of 8 A.M. cloud amount from normal in			
	October.	November.	December.	Period, October to December.
Burma	−1·2	−1·5	−0·7	−1·1
Assam	+0·7	−0·8	−0·8	−0·3
Bengal	−0·1	−0·5	+0·9	+0·1
Orissa	−1·0	−0·2	+1·3	0
Bihar	+0·1	−0·4	+0·5	+0·1
Chota Nagpur	−0·3	−0·6	+1·0	0
United Provinces of Agra and Oudh.	+0·4	−0·5	−0·6	−0·2
Punjab	+0·8	0	−1·6	−0·3
Sind	+1·2	−0·5	−1·2	−0·2
Rajputana	+1·1	−0·4	−0·7	0
Gujarat	+0·3	−0·6	+0·3	0
Central India	+1·0	−0·2	+1·7	+0·8
Central Provinces	+0·5	0	+1·7	+0·7
Berar	+1·9	+0·7	+2·3	+1·6
West Coast	+0·8	+1·6	+2·4	+1·6
Bombay Deccan	+1·7	+1·9	+3·5	+2·4
Mysore	−0·4	+2·3	+2·9	+1·6
Madras Coast	−0·4	+0·5	+1·3	+0·5
Madras Deccan	−0·4	+1·0	+2·3	+1·0
South India	0	+1·6	+1·5	+1·0

The year.—The mean cloud amount was on the average of the year in very slight defect (−0·1) over the whole Indian area. This defect on the average for India was entirely due to a deficiency (−0·3) of cloud in Extra-Tropical India, the cloud proportion in Tropical India being in very slight excess (+0·1).

The deficiency was most marked in Western Rajputana (−0·7), the Punjab (−0·7), the Central Provinces (South), Berar and the Himalayan area (each −0·4). Cloud was, on the other hand, in moderate excess in the East Coast (+0·6), the Deccan, Orissa and Chota Nagpur (each +0·4).

The following gives data for Extra-Tropical and Tropical India and for the whole of India for the four periods into which the year is divided and for the year :—

Area.	Variation of mean cloud amount from normal in				
	Period, I.	Period, II.	Period, III.	Period, IV.	Whole year.
Extra-Tropical India	−1·5	+0·2	−0·3	−0·1	−0·3
Tropical India	+0·3	−0·1	−0·4	+0·6	+0·1
Whole India	−0·6	+0·1	−0·3	+0·3	−0·1

The following gives the variation of the mean amount of cloud in the Indian area, year by year, for the period 1875—1902 :—

Year.	Amount of variation.	Year.	Amount of variation.
1875	0	1889	+0·1
1876	−0·2	1890	+0·2
1877	+0·3	1891	+0·1
1878	+0·1	1892	+0·1
1879	−0·1	1893	+0·5
1880	−0·1	1894	+0·5
1881	−0·1	1895	+0·1
1882	0	1896	−0·2
1883	+0·1	1897	0
1884	−0·1	1898	−0·2
1885	+0·2	1899	−0·3
1886	+0·2	1900	+0·2
1887	−0·1	1901	+0·1
1888	−0·2	1902	−0·1

Rainfall.

The rainfall data of India are now issued in a separate volume. The twelfth volume, that of 1902, contains the rainfall data of 2,400 stations, which are classified under their respective administrative divisions according to the following scheme:—

Province.	Number of stations.
Burma	152
Assam	117
Bengal, Bihar, Chota Nagpur and Orissa	363
United Provinces of Agra and Oudh	277
Punjab	189
North-West Frontier Province	30
Bombay	281
Madras	394
Coorg	10
Central Provinces	86
Berar	44
Mysore	77
Baluchistan	54
Kashmir	41
Rajputana	139
Central India	70
Hyderabad (Deccan)	23
Travancore	39
Cochin	3
Pudukota	11

The volume contains the whole of the available information for the year 1902 of this important element of meteorological observation.

The information includes monthly statements of—

(*a*) the actual rainfall, day by day, of all the rainfall stations;

(*b*) the total rainfall of the month;

(*c*) the number of rainy days during the month;

(*d*) the average or normal rainfall of the month of all stations for which rainfall data of at least five years are available;

(*e*) the average or normal number of rainy days of the month for all stations for which rainfall data of five years or upwards are available;

(*f*) the accumulated rainfall (up to the date of each statement) throughout each of the seasons into which the year is divided.

Symons's rain-gauges are now used at all rain-gauge stations, with the exception of those in Mysore. The hour of measuring rainfall is 8 A.M. throughout India, and the amounts registered give the rainfall of the previous 24 hours, and hence generally of the previous civil day.

Table XXX gives the normal monthly rainfall at 549 stations determined from the whole of the available data down to December 1900. The stations for which the means are given were selected by Mr. Blanford, and the last series of means were given in the Annual Summary for 1896. The means in Table XXX are hence based on four years' additional data.

Table XXXI gives the variations of the monthly and annual rainfall in 1902 of 547 stations in India, Baluchistan and Burma.

The four tables (Tables XXXII to XXXV) gives summaries of the rainfall data of the year. In the first two tables (Tables XXXII and XXXIII) the summaries are drawn up in the form that was used for many years in the Annual Reports issued by the Department and are based on the rainfall returns of 549 stations. In the two succeeding tables (Tables XXXIV and XXXV) the actual average rainfall data (derived from the returns of 2,409 rain-gauge stations in India) are given for the 57 meteorological districts into which the Empire is divided for the comparison of crops and rainfall for the four periods into which the year may be arranged. The four periods are as follows:—

1st.—From January 1st to February 28th, which forms the period of the cold-weather rains of Upper India.

2nd.—From March 1st to May 31st, which includes the hot season, when rain occurs mainly in the coast districts, and in Assam during thunderstorms.

3rd.—From June 1st to October 31st, which forms the period of the south-west monsoon rains proper.

4th.—From November 1st to December 31st, which includes the period of the so-called north-east monsoon rains of Southern India, more especially of the Coromandel Coast districts.

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inches.	Inches.
Baluchistan.	Kalat	1·76	2·24	1·44	0·48	0·26	0·17	0·49	0·45	0·04	0·05	0·34	0·83	8·55
	Pishin	2·50	2·30	1·69	0·95	0·23	0·03	0·16	0·16	0·01	0·05	0·67	1·34	10·09
	Chaman	1·54	2·05	1·41	0·60	0·08	0·09	0·11	0	0	0·04	0·61	1·15	7·68

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.	Inches.	Inches.
BALUCHISTAN—*contd.*	Quetta (Hospital)	1·90	2·11	1·80	1·05	0·43	0·18	0·47	0·51	0·11	0·08	0·38	0·97	9·99
	Mach . .	1·24	1·75	0·81	0·33	0·06	0·56	0·99	1·15	0·03	0·34	0·23	0·70	8·19
	Beleli . .	1·86	2·39	1·27	0·95	0·29	0·14	0·09	0·40	0·03	0·06	0·86	1·59	9·93
	Kuchelak .	2·20	2·29	1·59	0·77	0·28	0·08	0·13	0·16	0·12	0·10	0·81	1·61	10·14
	Fort Sandeman	0·70	1·21	1·61	0·92	0·47	1·08	2·70	1·13	0·06	0·05	0·31	0·38	10·62
	Bostan . .	2·20	2·62	1·61	0·61	0·13	0·18	0·30	0·16	0·03	0·09	0·68	1·83	10·44
	Yarookarez .	1·59	2·01	1·20	0·65	0·07	0·04	0·01	0·15	0	0·05	0·48	1·69	7·94
	Syad Hamed .	1·93	2·46	1·34	0·60	0·03	0·01	0	0	0	0·07	0·92	1·03	8·39
	Gulistan . .	1·81	2·25	1·60	0·63	0·14	0·04	0·03	0	0·04	0·06	0·85	1·13	8·58
	Killa Abdulla .	1·80	2·74	1·82	1·03	0·13	0·03	0·08	0·02	0·02	0·10	1·28	1·24	10·29
	Khanai . .	2·27	2·39	1·61	1·08	0·04	0·18	0·17	0·13	0	0·07	0·64	1·14	9·72
	Fuller's Camp .	2·15	2·77	2·10	1·39	0·41	0·14	0·41	0·11	0·06	0·10	0·88	1·17	11·69
	Kachh . .	2·14	3·15	2·16	0·97	0·35	0·26	0·30	0·15	0·11	0·07	0·72	1·85	12·23
	Mudgorge .	1·90	1·98	1·87	0·68	0·32	0·22	0·42	0·28	0·05	0·09	0·99	0·94	9·74
	Mangi . .	1·07	1·59	1·65	0·58	0·24	0·64	0·34	0·25	0·12	0·06	0·81	1·17	8·52
	Dirgi . .	1·28	1·47	1·49	0·59	0·32	0·38	0·53	0·28	0·30	0·05	0·66	1·13	8·48
	Khost . .	1·51	1·79	1·27	0·31	0·24	0·43	1·16	0·65	0·20	0·06	0·96	0·95	9·53
	Shahrig . .	1·83	1·88	1·29	0·27	0·31	0·68	2·24	1·98	0·63	0·06	0·76	0·76	12·69
	Nasak . .	1·10	1·89	1·16	0·28	0·25	1·12	1·81	2·88	0·33	0·08	0·71	1·01	12·62
	Harnai . .	1·10	1·81	1·03	0·46	0·17	1·10	2·26	3·04	0·60	0·07	0·52	0·98	13·14
	Sunari . .	0·91	1·32	0·88	0·32	0·18	0·88	2·90	3·24	0·69	0·08	0·50	0·77	12·67
	Spintangi .	0·61	1·30	0·61	0·25	0·19	0·72	2·04	2·68	0·24	0	0·33	0·74	9·71
	Mushkaf . .	0·13	0·27	0·27	0·03	0·05	0·17	1·08	1·15	0·10	0	0·07	0·51	3·83
	Baber Kach .	0·53	0·81	0·38	0·16	0·12	0·31	1·50	1·60	0·31	0·03	0·27	0·59	6·61
	Loralai (Hospital)	0·23	0·61	1·38	0·48	0·68	0·33	1·45	1·18	0·22	0·03	0·30	0·47	7·36
	Nari . .	0·48	0·62	0·30	0·08	0·06	0·25	1·51	1·19	0·23	0·01	0·17	0·51	5·41
	Sibi Hospital .	0·58	0·38	0·29	0·11	0·06	0·22	1·27	1·33	0·20	0	0·17	0·61	5·22
	Kolepur . .	1·60	1·71	1·53	0·54	0·17	0·09	1·00	0·49	0·08	0·03	0·31	1·39	8·94
	Hirok . .	2·14	2·35	0·95	0·52	0·10	0·36	1·13	0·94	0·21	0·07	0·97	1·29	11·03
	Mittri . .	0·41	0·30	0·22	0·29	0·01	0·22	1·25	0·73	0·06	0·01	0·15	0·43	4·08
	Lindsay . .	0·30	0·32	0·17	0·07	0·13	0·16	0·89	0·86	0·22	0	0·12	0·39	3·63
	Bellput . .	0·28	0·16	0·13	0·07	0·03	0·17	0·98	1·01	0·08	0	0·15	0·27	3·33
	Nuttal . .	0·35	0·37	0·14	0·10	0·22	0·09	1·07	0·86	0·15	0	0·35	0·40	4·10
	Temple Dera .	0·37	0·29	0·10	0·07	0·08	0·18	0·97	1·00	0·04	0	0·18	0·28	3·56
	Jhatput . .	0·22	0·30	0·07	0·03	0·14	0·17	0·63	0·85	0·08	0	0·18	0·24	2·91
	Sangal . .	1·98	2·49	1·92	0·71	0·10	0·01	0·13	0·03	0	0·08	0·51	1·53	9·49

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baluchistan —*concld.*	Shalabagh	2·77	3·37	2·76	0·72	0·09	0·02	0·40	0·02	0	0·10	0·57	1·71	12·53
	Panir	0·53	0·53	0·61	0·03	0·06	0·08	0 61	0·65	0·03	0·01	0·09	0·58	3·81
Punjab and North-West Frontier Province.	Abbottabad	3·43	3·93	4·20	3·39	2·78	3·18	8·94	9·06	3·59	1·17	0·93	1·92	46·52
	Cherat	2·26	3·31	3·57	2·54	1·40	0·66	4·54	3·64	1·86	0·10	0·12	1·10	25·10
	Murree (Obsy.)	3·73	4·14	3·96	3·62	2·99	3·41	12·51	13·40	5·64	1·86	1·27	1·37	57·90
	Poo	2·56	2·94	3·37	1·91	1·12	0·26	0·77	0·59	0·37	0·49	0·43	1·19	16·00
	Dharamsala	4·89	4·88	3·67	1·95	2·58	11·04	40·81	39·19	12·44	1·32	0·35	2·57	125·69
	Kailang	2·92	3·00	3·48	3·33	2·60	1·36	1·37	1·58	1·63	0·46	0·51	1·21	23·45
	Kilba	4·83	5·20	5·52	4·01	3·10	1·87	4·15	3·56	3·19	1·04	1·58	1·75	39·80
	Simla (Obsy.)	3·21	3·07	2·48	2·32	3·71	7·84	18·42	17·87	6·17	1·19	0·41	1·28	67·97
	Peshawar (Obsy.)	1·54	1·31	1·88	1·77	0·67	0·27	1·67	2·17	0·67	0·18	0·58	0·55	13·26
	Kohat	1·35	1·30	2·01	1·56	1·29	1·01	3·72	3·07	1·45	0·48	0·63	0·49	18·36
	Bannu	0·85	0·86	1·51	1·25	0·71	0·90	2·63	2·60	0·70	0·13	0·28	0·32	12·74
	Dera Ismail Khan	0·44	0·80	0·87	0·67	0·38	0·65	1·92	1·51	0·48	0·10	0·15	0·31	8·28
	Dera Ghazi Khan	0·41	0·45	0·56	0·32	0·45	0·47	1·63	1·23	0·45	0·05	0·11	0·26	6·39
	Muzaffargarh	0·33	0·35	0·35	0·33	0·34	0·35	1·36	1·42	0·52	0·08	0·08	0·27	5·78
	Mooltan (Obsy.)	0·39	0·36	0·42	0·27	0·39	0·43	2·19	1·66	0·60	0·07	0·06	0·27	7·11
	Jhang	0·51	0·45	0·71	0·36	0·49	1·03	3·32	2·18	0·64	0·14	0·06	0·34	10·23
	Montgomery	0·53	0·60	0·42	0·21	0·39	1·12	2·86	2·32	0·94	0·13	0·05	0·27	9·84
	Shahpur	0·82	0·95	0·95	0·62	0·68	1·18	3·76	3·07	1·50	0·15	0·22	0·38	14·28
	Rawalpindi	2·50	2·10	2·09	2·05	1·42	1·79	8·24	7·71	3·18	0·53	0·64	1·11	33 36
	Jhelum	1·96	1·38	1·56	1·00	0·87	2·00	7·39	6·39	2·34	0·45	0·24	0·80	26·38
	Gujarat	1·90	1·52	1·76	1·02	0·74	2·38	7·86	6·94	2·41	0·42	0·22	0·67	27·84
	Sialkot (Obsy.)	1·94	1·85	1·58	1·27	1·05	2·98	10·30	9·74	2·99	0·49	0·26	0·77	35·22
	Gujranwala	1·44	1·41	1·17	0·70	0·77	1·86	7·35	6·11	2·14	0·41	0·20	0·62	24·18
	Gurdaspur	2·18	1·87	1·41	0·57	0·79	4·16	9·90	8·71	3·63	0·49	0·14	1·09	34·94
	Lahore	0·87	1·13	0·89	0·51	0·80	1·86	6·65	4·88	2·10	0·43	0·11	0·47	20·70
	Amritsar	1·28	1·18	0·82	0·55	0·80	2·27	7·78	6·53	2·51	0·40	0·18	0·62	24·92
	Ferozepur	1·11	0·86	0·66	0·51	0·57	2·28	6·32	4·86	2·41	0·51	0·05	0·47	20·61
	Jullandar	1·52	1·25	1·08	0·58	0·73	2·81	7·75	7·30	3·44	0·38	0·09	0·71	27·64
	Hoshiarpur	1·90	1·78	1·27	0·61	0·87	3·60	10·26	9·48	4·47	0·33	0·13	1·22	35·92
	Ludhiana	1·44	1·11	1·14	0·65	0·85	2·56	8·61	6·59	3·70	0·81	0·06	0·73	28·25
	Umballa	1·53	1·58	0·86	0·55	0·86	4·09	11·01	8·74	4·50	0·44	0·24	0·67	35·07
	Sirsa	0·73	0·35	0·41	0·34	0·64	2·07	3·70	3·64	1·95	0·24	0·02	0·34	14·43
	Hissar	0·66	0·42	0·50	0·22	0·66	1·87	4·63	4·25	2·03	0·27	0·07	0·43	16·01
	Rohtak	0·82	0·56	0·54	0·24	0·72	2·68	5·91	5·66	3·21	0·34	0·03	0·51	21·22

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inch.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inch.	Inches.
Punjab and North-West Frontier Province—*concld.*	Delhi (Obsy.)	1·02	0·61	0·67	0·35	0·71	3·18	8·38	7·44	4·42	0·39	0·10	0·43	27·70
	Gurgaon	0·88	0·41	0·49	0·16	0·68	2·75	8·39	7·10	4·32	0·34	0·04	0·34	25·90
	Karnal	1·28	1·16	0·73	0·41	0·97	4·11	9·40	6·90	4·60	0·37	0·12	0·50	30·55
Sind.	Kurrachee	0·66	0·30	0·16	0·13	0·03	0·47	3·06	1·73	0·64	0·04	0·16	0·19	7·57
	Sehwan	0·39	0·28	0·18	0·16	0·16	0·28	1·73	2·38	0·55	0·03	0·12	0·14	6·40
	Tatta	0·30	0·21	0·11	0·28	0·01	0·88	3·67	1·79	0·72	0	0·19	0·09	8·25
	Hyderabad (Obsy.)	0·25	0·20	0·13	0·16	0·12	0·43	2·62	3·08	0·52	0	0·10	0·05	7·66
	Umarkot	0·18	0·08	0·11	0·08	0·10	0·78	3·34	3·36	1·00	0·14	0·05	0·03	9·25
	Shikarpur	0·32	0·32	0·35	0·19	0·09	0·10	1·00	1·55	0·18	0	0·12	0·18	4·40
	Rohri	0·32	0·43	0·34	0·26	0·15	0·22	1·08	1·31	0·24	0·01	0·11	0·19	4·66
	Jacobabad	0·26	0·27	0·25	0·17	0·15	0·10	1·21	1·25	0·19	0·01	0·12	0·15	4·13
Cutch.	Bhuj	0·06	0·11	0·07	0·09	0·13	2·06	5·88	3·31	1·86	0·64	0·08	0·06	14·35
	Rhahpur	0·06	0·08	0·05	0·08	0·15	1·48	7·58	3·78	2·92	0·46	0·16	0·04	16·84
	Nagar	0·14	0·09	0·04	0·04	0·40	1·87	5·81	5·28	1·96	0·24	0·05	0·03	15·95
Rajputana.	Jaisalmer	0·27	0·15	0·10	0·12	0·21	0·79	2·28	2·19	0·60	0	0·04	0·09	6·84
	Phalodi	0·17	0·16	0·09	0·02	0·27	0·83	3·40	2·48	0·65	0	0	0·14	8·21
	Bikaner	0·38	0·24	0·18	0·14	0·84	1·65	3·29	3·14	1·08	0·09	0·06	0·18	11·27
	Nagar	0·32	0·14	0·15	0·08	0·57	1·97	4·01	3·60	1·99	0·05	0·07	0·29	13·24
	Didwana	0·41	0·16	0·25	0·06	0·49	1·33	4·97	5·42	1·82	0·13	0·13	0·29	15·46
	Jhunjhunu	0·73	0·22	0·23	0·10	0·51	2·56	5·78	5·08	2·09	0·14	0·07	0·29	17·80
	Khetri	0·73	0·55	0·38	0·15	0·48	2·08	7·56	7·02	2·51	0·22	0·15	0·35	22·18
	Sikar	0·49	0·19	0·21	0·10	0·67	2·36	5·81	5·76	1·78	0·20	0·10	0·30	17·97
	Sri-Madhopur	0·51	0·50	0·23	0·15	0·63	2·37	8·31	6·98	2·34	0·05	0·18	0·49	22·74
	Alwar	0·55	0·42	0·29	0·11	0·90	3·43	9·35	9·10	4·80	0·72	0·17	0·44	30·28
	Bharatpur	0·42	0·24	0·23	0·12	0·61	2·49	8·82	8·19	4·32	0·35	0·05	0·29	26·13
	Bandikui	0·40	0·19	0·30	0·09	0·34	1·91	5·92	7·73	3·45	0·09	0·16	0·40	20·98
	Jaipur	0·43	0·19	0·31	0·16	0·64	2·96	8·90	7·44	3·23	0·21	0·16	0·35	24·98
	Sambhar	0·30	0·17	0·22	0·14	0·91	1·60	6·80	6·16	3·29	0·29	0·22	0·40	20·50
	Karauli	0·31	0·20	0·15	0·09	0·62	3·85	9·40	9·52	4·44	0·12	0·09	0·34	29·13
	Lalsot	0·32	0·09	0·13	0·06	0·25	2·98	8·67	9·51	3·04	0·15	0·10	0·21	25·51
	Tonk	0·19	0·27	0·18	0·08	0·37	2·83	9·04	9·10	3·10	0·47	0·07	0·24	25·94
	Siwai Madhopur	0·29	0·22	0·20	0·10	0·29	4·19	12·16	11·15	3·84	0·12	0·10	0·18	32·84
	Deoli	0·24	0·20	0·14	0·16	0·83	3·83	10·47	9·73	4·55	0·39	0·12	0·19	30·85
	Kotah	0·25	0·21	0·09	0·13	0·78	3·94	9·59	9·59	4·40	0·32	0·15	0·31	29·76
	Jhalrapatan	0·21	0·28	0·13	0·05	0·43	5·38	14·06	10·21	5·70	0·51	0·23	0·47	37·66
	Ajmer	0·31	0·28	0·31	0·13	0·59	2·41	6·82	7·37	3·09	0·29	0·20	0·29	22·09

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.
Rajputana —*concld.*	Nasirabad	0·17	0·31	0·11	0·07	0·54	1·97	6·86	6·03	2·81	0·22	0·18	0·31	19·58
	Malpura	0·33	0·05	0·24	0·05	0·19	1·31	6·59	7·93	2·68	0·02	0·02	0·26	19·67
	Beawar	0·22	0·11	0·16	0·12	0·38	2·30	7·01	5·97	2·85	0·17	0·18	0·25	19·72
	Jodhpur	0·24	0·16	0·03	0·06	0·45	1·36	3·75	4·90	2·18	0·19	0·10	0·14	13·56
Central India.	Pachpadra	0·34	0·07	0·10	0·05	0·67	1·44	4·28	3·46	2·13	0·06	0·09	0·12	12·81
	Jasol	0·18	0·06	0·08	0·05	0·52	1·55	3·83	3·20	1·41	0·01	0·18	0·08	11·15
	Barmer	0·15	0·09	0·07	0·06	0·43	1·54	3·20	2·85	1·71	0·03	0·11	0·05	10·29
	Pali	0·12	0·02	0·09	0·04	0·32	2·17	4·21	4·80	2·06	0·08	0·25	0·10	14·26
	Shahpura	0·12	0·16	0·15	0·17	0·67	3·45	7·29	7·56	4·47	0·42	0·10	0·24	24·80
	Erinpura	0·17	0·21	0·10	0·05	0·42	2·15	5·59	5·06	2·98	0·34	0·19	0·16	17·42
	Sirohi	0·15	0·14	0·08	0·15	0·75	3·39	7·56	5·78	3·61	0·07	0·22	0·13	22·03
	Mount Abu	0·27	0·31	0·15	0·08	0·97	5·59	22·05	21·51	9·58	1·46	0·28	0·24	62·49
	Kotra	0·11	0·21	0·03	0·04	0·65	3·78	11·71	9·97	5·91	0·54	0·18	0·15	33·28
	Udaipur	0·09	0·15	0·07	0·11	0·57	3·58	7·39	7·42	5·70	0·37	0·18	0·17	25·80
	Pratabgarh	0·18	0·10	0·02	0·03	0·51	5·72	11·27	11·16	5·28	0·64	0·25	0·26	35·42
	Kherwara	0·09	0·16	0·05	0·02	0·39	4·68	8·84	7·99	4·59	0·49	0·15	0·11	27·56
	Banswara	0·26	0·15	0·01	0·01	0·31	6·19	11·30	12·19	7·83	0·67	0·22	0·36	39·50
	Neemuch (Obsy.)	0·16	0·12	0·08	0·10	0·36	3·74	8·06	8·26	4·44	0·53	0·14	0·23	26·22
	Sirdarpore	0·16	0·18	0·02	0·02	0·25	5·21	9·69	6·79	7·16	1·00	0·20	0·14	30·82
	Agar	0·25	0·29	0·03	0·06	0·44	5·44	10·66	10·77	7·44	0·61	0·17	0·38	36·54
	Rutlam	0·17	0·18	0·02	0·03	0·38	5·22	10·83	10·35	7·65	0·87	0·24	0·24	36·18
	Indore	0·25	0·24	0·05	0·17	0·47	6·33	9·76	7·75	7·46	1·09	0·24	0·18	33·99
	Bhopal (Sehore)	0·45	0·22	0·14	0·05	0·31	7·31	16·43	13·08	8·71	1·15	0·38	0·43	48·66
	Goona	0·49	0·25	0·18	0·12	0·40	6·72	11·59	13·24	5·69	0·43	0·34	0·32	39·77
	Morar	0·44	0·38	0·15	0·10	0·38	3·11	9·85	10·58	5·51	0·42	0·04	0·36	31·32
	Nowgong	0·64	0·42	0·21	0·10	0·31	6·93	14·60	13·07	6·38	1·04	0·18	0·48	44·36
	Sutna	0·90	0·67	0·38	0·09	0·36	6·51	15·06	12·08	5·99	2·06	0·26	0·41	44·77
	Nagode	0·86	0·46	0·29	0·14	0·42	5·93	15·87	12·76	6·96	1·98	0·17	0·47	46·31
	Maihar	0·72	0·59	0·28	0·11	0·47	7·13	14·44	13·77	6·51	1·99	0·44	0·50	46·95
	Rewah	0·82	0·80	0·26	0·24	0·40	8·56	15·87	14·67	9·18	2·22	0·29	0·38	53·69
	Ramnagar	0·89	0·62	0·27	0·05	0·32	8·36	14·67	14·50	6·51	2·08	0·30	0·49	49·06
	Sihawal (Bardi)	0·92	0·45	0·60	0·08	0·34	5·49	13·63	14·39	7·51	1·97	0·48	0·49	46·35
	Tyonthar	0·90	0·55	0·31	0·08	0·38	6·12	12·77	12·33	7·08	2·20	0·17	0·49	43·38
	Sohagpur	1·38	0·80	0·45	0·39	0·34	7·38	14·98	13·09	8·59	2·25	0·76	0·46	50·87
United Provinces.	Chakrata	3·21	3·58	2·64	1·52	2·53	8·33	19·29	17·92	6·30	0·76	0·34	1·30	67·72
	Mussooree	2·93	3·00	2·37	1·46	2·45	10·38	30·46	31·84	10·06	0·95	0·42	1·23	97·55

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.
UNITED PROVINCES—*contd.*	Srinagar	2·31	2·66	1·76	0·84	1·99	4·86	9·26	9·04	3·19	0·72	0·25	0·70	37·58
	Pauri	2·61	2·77	2·03	1·21	2·39	5·60	13·89	13·19	4·86	0·78	0·30	0·75	50·38
	Ranikhet	2·52	2·27	1·80	1·26	2·38	6·30	13·47	13·39	6·73	1·27	0·28	0·89	52·56
	Almora	2·10	1·89	1·60	0·99	2·10	6·07	9·98	9·07	5·07	1·08	0·21	0·62	40·78
	Pithoragarh	2·14	2·45	1·75	1·50	3·17	7·73	13·06	11·90	5·98	1·38	0·17	0·68	51·91
	Naini Tal	3·11	2·99	2·26	1·55	2·63	15·13	27·00	25·35	11·87	2·04	0·25	1·15	95·33
	Dehra Dun	2·26	2·04	1·16	0·65	1·45	9·09	25·98	26·31	8·97	0·83	0·21	0·68	79·63
	Saharanpur	1·47	1·34	0·94	0·36	0·73	4·61	12·26	10·32	4·81	0·45	0·22	0·68	38·19
	Roorkee	1·85	1·48	0·85	0·36	1·04	5·09	12·63	12·60	5·51	0·58	0·24	0·52	42·75
	Muzaffarnagar	1·26	0·91	0·78	0·38	0·85	3·88	10·25	8·48	4·91	0·34	0·11	0·42	32·57
	Bijnor	1·26	1·13	0·81	0·46	0·69	4·83	11·20	10·35	5·91	0·45	0·13	0·38	37·60
	Meerut	1·05	0·83	0·63	0·34	0·70	3·60	9·37	7·64	4·55	0·43	0·08	0·40	29·62
	Moradabad	1·21	1·12	0·71	0·30	0·86	5·24	13·63	10·45	5·70	0·81	0·12	0·40	40·55
	Rudarpur	1·38	1·20	0·81	0·23	1·00	5·96	16·42	13·97	6·96	0·98	0·08	0·45	49·44
	Pilibhit	1·16	1·18	0·75	0·32	1·04	6·46	17·45	14·27	9·17	1·08	0·09	0·47	53·44
	Bulandshahr	0·82	0·90	0·42	0·27	0·53	3·01	8·32	7·96	4·51	0·42	0·07	0·44	27·67
	Bareilly	1·06	0·80	0·65	0·25	0·77	5·99	14·50	10·53	6·97	1·16	0·10	0·31	43·09
	Budaun	0·88	0·59	0·44	0·16	0·44	4·16	11·32	9·01	6·41	0·84	0·10	0·32	34·67
	Shahjahanpur	0·86	0·74	0·52	0·16	0·97	5·43	12·90	10·02	6·96	1·14	0·13	0·30	40·13
	Aligarh	0·76	0·49	0·36	0·17	0·45	3·19	9·29	7·53	4·59	0·44	0·04	0·35	27·66
	Muttra	0·53	0·35	0·23	0·17	0·52	2·83	9·05	7·52	4·35	0·35	0·06	0·27	26·23
	Agra	0·55	0·33	0·25	0·16	0·64	2·89	9·85	7·24	4·49	0·39	0·06	0·29	27·14
	Etah	0·54	0·35	0·46	0·09	0·44	3·14	9·59	8·46	4·72	0·76	0·05	0·29	28·89
	Mainpuri	0·68	0·37	0·27	0·13	0·45	3·26	9·61	8·50	5·52	0·78	0·10	0·37	30·04
	Farrukhabad	0·65	0·39	0·36	0·09	0·51	3·84	10·39	9·19	5·39	0·96	0·09	0·33	32·19
	Etawah	0·53	0·29	0·37	0·12	0·43	2·98	8·88	9·09	4·69	0·90	0·08	0·31	28·67
	Cawnpore	0·74	0·44	0·23	0·12	0·43	3·59	10·29	9·89	5·01	1·18	0·13	0·24	32·29
	Fatehpur	0·72	0·45	0·26	0·14	0·35	4·21	10·03	10·06	5·10	1·53	0·17	0·28	33·30
	Jalaun (Orai)	0·48	0·27	0·20	0·07	0·29	3·53	10·81	10·99	4·99	0·73	0·05	0·26	32·67
	Hamirpur	0·54	0·37	0·21	0·09	0·34	4·51	11·32	9·39	5·04	1·05	0·17	0·34	33·37
	Banda	0·72	0·36	0·26	0·10	0·35	4·58	12·07	10·57	5·67	1·40	0·36	0·28	36·72
	Allahabad	0·82	0·48	0·38	0·14	0·29	5·09	12·24	10·88	6·32	2·40	0·25	0·23	39·52
	Basti	0·83	0·46	0·31	0·24	1·13	6·56	13·19	12·79	9·25	2·74	0·05	0·11	47·66
	Gorakhpur	0·78	0·55	0·40	0·38	1·41	7·90	13·37	12·36	8·72	3·48	0·17	0·13	49·65
	Azamgarh	0·66	0·46	0·34	0·15	0·81	5·52	11·66	10·97	7·66	2·71	0·10	0·14	41·18
	Jaunpur	0·75	0·43	0·28	0·12	0·75	5·33	12·12	11·72	8·01	3·16	0·14	0·14	42·95

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
United Provinces—*contd.*	Benares	0·74	0·51	0·33	0·15	0·56	5·45	12·54	11·19	6·54	0·35	0·17	0·17	38·70
	Mirzapur	0·75	0·64	0·48	0·14	0·51	4·86	12·86	12·16	6·88	2·35	0·27	0·18	42·08
	Ballia	0·65	0·59	0·22	0·26	0·84	6·24	11·42	10·72	7·64	3 43	0·17	0·12	42·30
	Dudhi	0·68	0·61	0·41	0·21	0·66	5·27	11·93	12·81	7·30	3·06	0·26	0·30	43·50
	Robertsganj	0·77	0·58	0·42	0·21	0·64	5·59	13·51	12·81	7·39	2·77	0·37	0·27	45 33
	Jhansi	0·60	0·31	0·33	0·13	0·31	5·00	12·69	10·92	5·66	0·65	0·07	0·27	36·94
	Lalitpur	0·54	0·29	0·31	0·12	0·51	5·36	12·69	12·80	6·54	0·92	0·17	0·36	40·61
Oudh.	Kheri	0·99	0·77	0·47	0·21	1·21	6·70	12·02	13·63	7·90	1·33	0·16	0·38	45·77
	Sitapur	0·85	0·52	0·44	0·27	0·87	5·82	11·60	11·04	6·25	1·30	0·15	0·32	39·43
	Bahraich	0·84	0·76	0·42	0·35	1·56	6·07	13·55	11·44	8·02	1·64	0·12	0·39	45·16
	Gonda	0·71	0·61	0·33	0·24	1·17	6·47	12·67	12·29	8·30	1·49	0·10	0·28	44·66
	Hardoi	0·68	0·37	0·58	0·17	0·45	4·41	10·86	10·64	6·12	1·15	0·12	0·36	35·91
	Nawabganj (Bara Banki).	0·85	0·37	0·38	0·15	0·91	5·55	12·08	10·04	8·39	1·06	0·07	0·46	40·31
	Lucknow	0·90	0·45	0·32	0·11	0·91	5·34	11·39	11·32	6·61	1·33	0·08	0·44	39·20
	Unao	0·84	0·34	0·27	0·10	0·60	4·63	11·17	10·49	5·32	1·32	0·09	0·37	35·54
	Fyzabad	0·80	0·42	0·48	0·17	1·03	6·24	13·40	11·75	8·49	1·94	0·08	0·23	45·03
	Sultanpur	0·72	0·41	0·22	0·21	0·61	6·21	12·43	12·02	7·60	2·18	0·15	0·22	42·98
	Rae Bareli	0·68	0·44	0·22	0·09	0·38	5·32	11·02	11·11	7·59	1·34	0·12	0·23	38·54
	Partabgarh	0·85	0·42	0·22	0·04	0·45	5·15	11·63	11·33	7·13	2·27	0·21	0·29	39·99
Bengal.	Motihari	0·57	0·37	0·49	0·67	2·65	8·90	12·49	12·24	9·46	3·38	0·12	0·13	51·47
	Darbhanga	0·65	0·45	0·37	0·69	2·59	7·66	12·13	12·24	9·33	2·80	0·07	0·11	49·09
	Siwan	0·83	0·57	0·26	0·27	1·62	7·24	11·83	11·51	8·62	3·07	0·17	0·11	46·10
	Buxar	0·79	0·49	0·28	0·14	0·80	5·36	11·72	11·03	6·98	2·97	0·38	0·19	41·13
	Chapra	0·74	0·49	0·38	0·32	1·35	6·66	11·29	9·73	7·22	2·63	0·25	0·09	41·15
	Arrah	0·88	0·61	0·47	0·47	1·47	6·96	13·35	10·50	8·23	2·77	0·21	0·13	46·05
	Patna (Bankipore)	0·72	0·53	0·35	0·30	1·70	7·76	11·41	10·72	7·82	2·89	0·20	0·14	44·54
	Muzaffarpur	0·79	0·47	0·43	0·47	2·41	7·26	11·90	10·60	8·17	2·92	0·12	0·07	45·61
	Barh	0·65	0·58	0·34	0·17	1·93	6·17	12·35	10·47	7·57	2·36	0·18	0·09	42·86
	Sasaram	0·58	0·59	0·36	0·15	0·96	5·58	11·76	12·49	6·84	2·79	0·27	0·23	42·60
	Gaya	0·71	0·64	0·45	0·27	1·08	6·78	12·30	11·08	6·87	2·32	0·27	0·17	42·94
	Jamui	0·75	0·71	0·41	0·45	1·88	7·30	13·95	11·65	7·45	2·17	0·12	0·07	46·91
	Madhipura	0·58	0·66	0·42	1·07	3·81	8·25	12·87	11·91	10·74	3·36	0·06	0·05	53 78
	Monghyr	0·51	0·67	0·44	0·50	2·18	7·01	12·42	11·03	8·71	3·45	0·20	0·07	47·19
	Bhagalpur	0·55	0·68	0·44	0·88	2·79	8·28	12·21	11·26	8·48	3·54	0·17	0·07	49·35
	Godda	0·56	0·63	0·49	0·55	3·39	7·90	11·80	10·51	9·71	2·79	0·27	0·08	48·68
	Palamau	0·75	0·53	0·63	0·27	1·04	6·12	12·51	12·11	7·54	2·40	0·35	0·29	44·54

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BENGAL—*contd.*	Hazaribagh	0·59	0·81	0·69	0·43	1·77	8·78	13·62	12·72	8·26	3·31	0·30	0·21	51·49
	Ranchi	0·69	1·08	1·33	0·75	2·24	8·21	13·20	11·97	8·62	2·99	0·31	0·18	51·57
	Lohardaga	0·81	0·83	0·84	0·63	1·73	8·52	12·51	13·31	9·19	2·45	0·46	0·40	51·68
	Naya Dumka	0·59	0·70	0·81	1·02	3·59	9·96	14·14	13·41	10·01	3·91	0·31	0·16	58·61
	Gobindpur	0·52	0·79	0·57	0·62	2·28	8·10	12·29	11·65	7·88	3·39	0·18	0·14	48·41
	Purulia	0·44	1·02	0·98	0·99	2·94	10·09	12·23	12·28	8·14	3·24	0·24	0·18	52·77
	Sirguja	0·98	1·19	0·75	0·30	0·67	10·10	18·41	21·52	7·78	2·30	0·55	0·42	64·97
	Jushpore	0·78	0·91	1·39	0·69	1·57	11·36	16·11	16·62	10·36	4·03	0·41	0·35	64·58
	Gangpur	0·43	1·27	0·84	0·87	1·33	9·86	17·53	16·63	8·32	2·78	0·69	0·40	60·95
	Chaibassa	0·51	0·96	1·12	1·03	3·70	8·40	13·33	13·11	8·30	2·68	0·40	0·26	53·80
	Barreepudda	0·16	0·86	1·43	1·57	4·84	10·95	12·99	12·04	11·81	4·72	0·81	0·14	62·32
	Keonjhar	0·18	0·56	0·74	1·18	2·13	6·78	10·46	7·70	6·50	2·93	0·83	0·28	40·27
	Jellasore	0·44	1·01	1·29	1·36	4·27	8·73	13·34	11·44	10·99	4·57	0·65	0·13	58·22
	Balasore	0·56	1·21	1·78	2·66	5·14	10·37	11·75	12·27	12·95	6·59	1·18	0·19	66·65
	Bhadrak	0·31	1·27	1·47	2·16	5·50	9·58	12·21	11·77	10·39	5·25	1·17	0·31	61·39
	Talcher	0·18	0·77	1·21	1·03	2·69	9·59	13·42	11·29	8·04	3·19	1·06	0·18	52·65
	Narsinghpur	0·46	0·41	0·27	0·24	0·39	8·00	15·46	12·87	9·07	1·45	0·25	0·38	49·25
	Angul	0·18	0·77	1·20	1·18	2·75	9·67	11·07	10·01	8·57	4·32	1·22	0·35	51·29
	Dhenkanal	0·24	0·64	1·33	0·63	3·09	10·48	12·92	11·97	10·56	4·69	1·15	0·28	57·98
	Bispara	0·27	0·32	0·71	1·53	2·08	9·88	13·27	10·89	10·56	4·73	0·96	0·24	55·44
	Kunjabangar	0·18	0·29	1·13	1·45	3·16	8·89	11·20	9·67	9·57	5·24	1·11	0·10	51·99
	Banki(Charchika)	0·20	0·55	1·39	0·76	2·79	9·66	10·86	11·55	10·02	5·15	1·42	0·40	54·75
	Cuttack	0·33	0·49	1·31	1·38	3·54	10·91	12·06	12·42	10·48	5·73	1·36	0·34	60·35
	Baramba	0·27	0·34	0·93	1·08	3·04	9·62	10·74	11·84	8·93	5·48	1·24	0·04	53·55
	False Point	0·49	0·90	1·02	1·73	4·46	7·27	13·71	13·91	11·17	9·56	2·74	0·47	69·43
	Puri	0·25	0·99	0·62	0·78	2·89	7·66	9·76	11·60	9·91	8·23	2·68	0·55	55·92
	Darjeeling	0·76	1·08	2·01	4·08	7·83	24·19	31·74	25·98	18·34	5·35	0·24	0·20	121·80
	Gangtok	1·04	3·37	5·69	11·58	22·20	18·60	24·50	25·12	21·20	5·89	1·49	1·05	141·73
	Mongpoo	0·86	0·89	1·95	4·44	9·91	26·90	32·07	25·29	17·41	3·99	0·16	0·18	124·05
	Pedong	1·01	1·09	2·64	5·40	9·26	16·84	25·90	22·01	15·01	3·38	0·38	0·51	103·43
	Buxa	1·10	1·02	2·80	8·70	20·[illegible]	39·27	50·42	42·79	30·76	10·19	0·67	0·65	208·61
	Jalpaiguri	0·48	0·39	1·47	3·63	11·84	25·89	29·57	24·81	22·65	4·78	0·14	0·07	125·72
	Cooch Behar	0·43	0·42	1·66	5·89	15·26	32·15	25·47	20·45	21·82	4·79	0·14	0·08	128·56
	Kishanganj	0·63	0·47	0·69	1·83	6·06	15·46	19·17	15·80	15·90	3·19	0·05	0·09	79·34
	Purnea	0·47	0·56	0·40	1·36	4·32	10·41	15·00	13·90	14·34	3·43	0·07	0·10	64·36
	Rangpore	0·49	0·43	1·16	3·16	10·37	19·95	15·93	13·02	14·18	4·94	0·24	0·08	83·95

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
Bengal—*concld.*	Dinajpore	0·38	0·59	0·75	2·24	7·69	16·15	15·23	13·48	13·31	4·30	0·16	0·08	74·36
	Malda	0·68	0·76	0·82	1·35	3·87	9·89	11·07	10·27	10·86	4·18	0·22	0·25	54·22
	Bogra	0·51	0·99	0·98	3·11	8·36	14·48	15·12	12·08	11·65	4·58	0·82	0·09	72·77
	Rampur Boalia	0·34	0·84	1·15	1·81	5·56	10·81	11·45	10·75	10·40	4·46	0·31	0·06	57·94
	Pubna	0·38	1·07	1·50	3·31	7·26	11·41	10·81	11·22	9·89	3·98	0·59	0·07	61·49
	Suri	0·44	0·91	0·78	0·92	3·48	11·35	12·90	12·54	9·77	3·49	0·33	0·12	57·03
	Bankura	0·33	1·03	1·30	1·52	3·86	10·29	12·87	11·58	8·75	4·05	0·51	0·13	56·22
	Burdwan	0·38	0·89	1·24	2·20	5·56	10·17	12·32	11·49	8·59	3·93	0·64	0·13	57·54
	Hooghly	0·38	1·20	1·58	2·46	5·85	10·56	11·28	11·64	8·40	3·83	0·66	0·19	58·03
	Howrah	0·41	1·14	1·46	1·80	4·95	11·39	12·04	12·12	9·42	4·06	0·50	0·18	59·47
	Midnapore	0·55	0·91	1·39	1·62	5·21	10·39	11·90	12·14	8·72	4·42	0·56	0·21	58·02
	Tamluk	0·26	1·09	1·51	1·50	5·22	9·76	12·18	13·18	9·23	4·22	0·45	0·18	58·78
	Berhampore	0·47	0·92	1·05	1·75	4·88	9·87	10·31	10·98	9·79	4·71	0·40	0·10	55·23
	Krishnagar	0·43	1·10	1·11	2·43	6·56	9·90	10·37	10·25	7·97	4·20	0·74	0·10	55·16
	Faridpur	0·48	1·32	2·33	4·24	8·51	13·00	12·45	12·08	9·07	4·49	1·03	0·08	69·08
	Jessore	0·48	1·01	1·82	3·90	7·85	13·17	11·62	11·22	9·00	5·30	1·18	0·15	66·70
	Basirhat	0·36	1·01	1·55	2·26	5·75	11·60	12·82	12·53	9·19	4·64	0·51	0·14	62·36
	Khulna	0·45	1·31	1·79	2·87	6·61	13·06	12·28	11·78	9·37	4·47	0·72	0·20	64·91
	Barisal	0·54	1·06	2·09	3·47	7·95	16·30	16·34	12·87	11·33	5·46	1·02	0·32	78·75
	Alipore (Obsy.)	0·29	1·02	1·14	1·54	5·60	11·04	12·31	12·69	10·40	3·87	0·62	0·31	60·83
	Saugor Island	0·28	1·07	1·18	1·06	4·75	10·79	15·53	15·18	12·10	9·13	1·31	0·22	72·60
	Mymensingh	0·43	1·20	2·20	5·48	12·05	19·51	17·15	14·70	13·62	5·35	0·76	0·09	92·54
	Kishorganj	0·57	0·94	2·57	5·34	11·87	18·34	13·92	13·84	12·82	4·84	0·69	0·22	85·96
	Atia (Tangail)	0·43	1·05	1·36	3·51	8·29	12·63	11·04	11·13	8·40	4·43	0·50	0·08	62·85
	Dacca	0·36	1·07	2·59	5·41	9·39	12·95	12·73	12·38	9·33	4·88	0·86	0·17	72·12
	Comilla	0·54	0·97	2·74	6·27	10·94	17·91	17·07	15·80	11·11	5·43	1·19	0·22	90·19
	Agartalla	0·57	1·48	4·11	5·22	11·34	14·77	11·91	11·49	9·71	4·44	1·24	0·35	76·63
	Noakhali	0·44	1·00	2·75	4·66	10·07	23·36	22·14	23·94	15·51	7·92	1·61	0·35	113·75
	Demagiri	0·41	1·35	3·69	4·69	12·75	19·81	17·02	19·37	16·79	7·14	1·53	0·64	105·19
	Rangamatia Hills	0·43	1·15	3·10	4·34	10·82	17·68	17·92	17·51	11·60	6·47	1·53	0·48	93·03
	Chittagong	0·41	1·16	2·14	4·47	9·68	22·81	22·92	19·99	13·03	6·41	1·49	0·58	105·09
	Cox's Bazar	0·48	0·41	1·45	2·38	10·62	31·99	39·92	27·64	14·40	8·32	1·97	0·29	139·87
Assam	Sylhet	0·37	1·48	6·25	13·92	21·83	32·17	25·39	25·39	20·55	7·90	1·12	0·27	156·64
	Silchar	0·64	2·32	7·93	13·56	15·72	20·39	19·98	18·69	13·95	6·40	1·31	0·54	121·43
	Cherra Poonjee	0·74	2·16	11·08	32·24	51·53	105·12	109·49	76·50	53·25	13·97	1·49	0·23	457·80
	Tura	0·56	0·79	2·11	6·41	15·63	25·11	25·58	19·92	19·65	7·53	0·42	0·11	123·82

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
Assam—*contd.*	Shillong	0·49	0·81	1·85	4·29	10·06	16·46	13·48	12·79	14·78	6·23	0·98	0·25	82·47
	Dhubri	0·39	0·55	1·86	5·01	16·14	25·28	16·71	12·18	13·32	3·75	0·14	0·14	95·74
	Goalpara	0·43	0·61	2·22	6·76	14·05	22·30	16·66	11·95	11·54	3·91	0·21	0·21	90·85
	Kulsi	0·44	0·63	2·20	5·90	9·80	13·36	15·62	12·05	9·30	3·49	0·28	0·20	73·27
	Gauhati	0·60	0·90	2·47	6·20	9·96	12·34	12·49	10·80	7·68	2·99	0·52	0·24	67·19
	Nowgong	0·77	0·98	2·44	5·43	9·12	12·34	16·05	14·74	10·79	3·67	0·49	0·28	77·10
	Tezpur	0·59	0·90	2·43	6·08	9·68	12·69	14·33	12·84	8·96	3·36	0·72	0·50	73·08
	Charduer	0·88	1·00	2·30	5·46	11·59	16·31	15·74	16·98	13·65	6·26	0·35	0·83	91·35
	Sibsagar	1·14	2·16	4·74	9·88	11·47	14·14	15·89	16·29	11·77	5·17	1·11	0·59	94·35
	Dibrugarh	1·49	2·53	5·54	9·84	14·18	18·26	20·01	18·66	13·61	6·05	1·11	0·83	112·11
	Kohima	0·58	1·15	2·59	3·96	6·79	13·86	16·69	14·95	10·04	3·71	1·10	0·43	75·85
Central Provinces.	Saugor	0·67	0·51	0·22	0·16	0·51	7·40	16·41	12·47	7·73	1·17	0·33	0·55	48·13
	Damoh	0·56	0·57	0·21	0·20	0·30	6·97	16·11	14·45	7·61	1·48	0·31	0·47	49·24
	Jubbulpore	0·72	0·52	0·48	0·22	0·47	8·53	18·82	15·13	8·38	1·55	0·37	0·26	55·45
	Narsinghpur	0·46	0·41	0·27	0·24	0·39	8·00	15·46	12·87	9·07	1·45	0·25	0·38	49·25
	Hoshangabad	0·33	0·21	0·21	0·07	0·53	6·82	15·42	13·58	9·59	1·31	0·39	0·44	48·90
	Khandwa	0·30	0·20	0·09	0·12	0·30	5·95	9·53	7·43	6·22	1·06	0·15	0·37	31·72
	Badnur (Betul)	0·46	0·32	0·56	0·29	0·49	7·20	13·08	9·89	8·28	1·75	0·39	0·49	43·20
	Pachmarhi	0·66	0·42	0·32	0·29	0·49	10·46	26·28	20·86	15·46	1·83	0·41	0·54	78·02
	Chhindwara	0·71	0·36	0·44	0·34	0·52	8·40	11·71	8·23	8·23	1·90	0·41	0·34	41·59
	Seoni	0·66	0·88	0·51	0·55	0·73	9·11	15·92	11·65	8·73	1·99	0·43	0·57	51·73
	Balaghat	0·54	0·62	0·38	0·42	0·72	11·15	22·17	18·10	9·56	1·93	0·49	0·22	66·30
	Mandla	0·63	0·67	0·73	0·46	0·46	8·61	18·07	13·75	6·85	1·59	0·28	0·33	52·43
	Bilaspur	0·50	0·39	0·74	0·74	0·88	8·46	14·84	12·39	7·83	1·87	0·57	0·27	49·48
	Sarangarh	0·21	0·52	0·69	0·35	0·68	8·40	17·12	14·59	8·03	2·99	0·53	0·13	54·24
	Raigarh	0·22	0·42	0·55	0·30	0·44	9·14	19·35	19·34	8·37	2·37	0·65	0·21	61·36
	Sambalpur	0·53	0·58	0·89	0·57	1·41	12·08	19·87	16·39	8·86	2·13	0·42	0·25	63·98
	Raipur	0·30	0·33	0·59	0·59	0·76	9·38	14·94	12·72	7·75	2·09	0·62	0·20	50·27
	Dhamtari	0·19	0·40	0·48	0·36	1·13	9·16	15·75	12·09	8·11	1·92	0·36	0·11	50·06
	Bhandara	0·78	0·62	0·58	0·53	0·82	8·36	16·84	14·01	9·62	1·67	0·69	0·35	54·87
	Nagpur	0·58	0·42	0·57	0·46	0·68	8·44	13·49	9·79	8·11	2·14	0·51	0·43	45·62
	Arvi	0·54	0·23	0·44	0·17	0·55	5·44	10·34	7·78	7·39	2·24	0·35	0·36	35·83
	Wardha	0·34	0·38	0·41	0·35	0·66	6·14	13·04	9·06	7·71	2·14	0·57	0·34	41·14
	Brahmapuri	0·39	0·35	0·84	0·44	0·59	9·11	17·91	14·00	9·56	1·99	0·54	0·37	56·69
	Chanda	0·25	0·70	1·24	0·71	1·71	7·28	16·45	12·54	9·27	2·07	0·73	0·30	53·25
	Sironcha	0·27	0·38	0·60	0·45	1·41	6·75	13·91	11·81	8·62	2·36	0·65	0·23	47·44

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
Central Provinces—*concld.*	Baster (Jagadalpore)	0·11	0·24	0·81	2·16	2·37	9·75	15·03	14·36	10·74	2·84	0·78	0·18	59·37
	Chikalda	0·55	0·25	0·45	0·28	0·64	9·86	18·93	17·47	12·50	3·83	0·64	0·75	66·15
	Ellichpur	0·42	0·23	0·36	0·25	0·36	6·01	8·37	5·71	5·52	2·28	0·56	0·51	30·58
	Amraoti	0·46	0·22	0·34	0·26	0·57	6·67	9·20	6·79	5·82	1·71	0·36	0·44	32·84
	Akola	0·45	0·18	0·43	0·16	0·31	5·12	8·74	6·48	6·24	2·14	0·44	0·58	31·27
Berar	Buldana	0·52	0·22	0·25	0·28	0·50	6·07	8·30	7·35	6·75	2·10	0·48	0·45	33·27
	Basim	0·30	0·21	0·27	0·34	0·48	7·56	10·78	7·58	6·78	1·91	0·76	0·44	37·41
	Yeotmal	0·27	0·24	0·50	0·35	0·73	7·24	12·84	8·71	7·34	2·36	0·56	0·38	41·52
	Wun	0·29	0·23	0·86	0·38	0·41	6·64	13·33	10·91	7·48	1·62	0·74	0·29	43·18
	Dhulia	0·27	0·06	0·04	0·07	0·27	5·06	5·27	3·94	5·01	1·63	0·62	0·31	22·55
	Nasik	0·07	0·06	0·03	0·14	0·65	5·94	7·84	4·95	5·45	3·45	0·48	0·22	29·28
	Igatpuri	0·14	0·09	0·03	0·07	0·88	21·84	49·58	35·00	17·47	4·17	0·40	0·18	129·85
	Malegaon	0·19	0·11	0·04	0·19	0·67	4·77	4·23	3·88	6·24	2·12	0·45	0·35	23·24
	Ahmednagar	0·27	0·12	0·15	0·40	1·16	4·73	3·03	3·60	6·75	3·12	0·89	0·44	24·66
	Poona	0·18	0·05	0·13	0·58	1·45	5·35	6·90	4·03	4·43	4·11	0·85	0·20	28·26
	Lonavla	0·06	0·04	0·06	0·23	0·65	28·81	69·51	46·02	22·39	3·76	0·72	0·15	172·40
	Satara	0·27	0·10	0·10	0·93	1·46	7·59	13·35	7·44	4·43	3·96	1·34	0·41	41·38
	Mahabaleshvar	0·31	0·05	0·30	1·26	1·36	47·55	105·06	72·57	31·97	5·55	1·23	0·32	267·53
	Sholapur	0·06	0·08	0·29	0·63	1·09	4·41	4·19	5·42	7·77	3·63	0·87	0·30	28·74
	Kolhapur	0·06	0·09	0·14	1·40	2·20	7·39	12·54	7·16	4·19	5·10	0·84	0·19	41·30
	Belgaum	0·06	0·03	0·49	2·05	2·73	9·32	15·37	9·15	4·05	5·09	1·33	0·24	49·91
	Gokok	0·07	0·01	0·41	0·55	2·10	3·29	2·07	2·01	3·03	6·03	1·02	0·54	21·13
Bombay	Dharwar	0·11	0·03	0·33	1·65	2·98	5·15	6·26	4·61	3·98	5·76	1·74	0·37	32·97
	Hubli	0·09	0·01	0·32	1·77	2·66	4·21	4·26	3·11	3·62	5·85	1·17	0·20	27·27
	Nargund	0·17	0·09	0·28	1·60	2·39	3·02	1·95	3·03	5·01	6·16	0·92	0·26	24·88
	Mundargi	0·19	0	0·13	1·03	2·31	2·21	1·85	1·79	4·33	3·86	1·38	0·09	19·17
	Kalgbatgi	0·12	0	0·34	1·68	2·23	6·02	7·68	5·12	3·60	5·50	1·22	0·19	33·70
	Bijapur	0·05	0·05	0·26	0·81	1·18	3·55	2·40	3·37	6·46	4·41	1·29	0·55	24·38
	Honavar	0·16	0·01	0·10	0·60	3·44	41·73	43·04	27·65	14·48	7·16	1·15	0·12	139·64
	Karwar	0·12	0·01	0·04	0·44	3·12	35·83	37·98	22·15	11·87	5·72	1·48	0·11	118·87
	Goa	0·19	0	0·02	0·33	1·60	31·34	33·42	19·90	9·56	4·71	1·12	0·08	102·27
	Vengurla	0·19	0·02	0·05	0·28	2·05	33·87	35·45	21·11	10·93	4·55	0·97	0·15	109·62
	Ratnagiri	0·60	0·02	0·05	0·15	1·27	31·32	34·25	20·19	12·53	3·62	0·45	0·06	104·51
	Colaba (Obsy.)	0·12	0·02	0·01	0·05	0·55	20·56	24·56	14·91	10·93	1·76	0·47	0·05	73·99
	Byculla (J. J. Hospital)	0·14	0·03	0·01	0·03	0·39	21·81	28·00	17·02	12·76	2·30	0·19	0·04	82·72
	Thana	0·17	0·06	0·06	0·01	0·36	23·79	37·16	21·84	12·64	2·72	0·28	0·04	99·13

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.—contd.*

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.
BOMBAY—*concld.*	Matheran	0·08	0·03	0·01	0·07	0·70	36·18	85·34	56·00	28·51	5·05	0·88	0·04	212·89
	Surat	0·03	0·07	0	0·01	0·15	9·46	15·54	8·82	6·39	1·57	0·15	0·03	42·22
	Broach	0·04	0·06	0·01	0	0·12	7·54	15·58	8·60	6·47	1·48	0·16	0·04	40·10
	Kaira	0·03	0·15	0·02	0·05	0·30	4·44	14·06	8·90	4·81	0·50	0·31	0·05	33·62
	Bariya	0·05	0·25	0	0·03	0·27	6·11	17·53	11·85	9·16	0·91	0·17	0·11	46·44
	Godhra	0·04	0·14	0·01	0·02	0·40	5·53	15·39	11·22	7·27	0·90	0·15	0·09	41·16
	Dohad	0·06	0·20	0·01	0·03	0·46	3·90	9·07	8·16	6·62	0·99	0·16	0·14	29·80
	Ahmedabad	0·02	0·10	0·01	0·03	0·46	3·94	11·49	8·26	4·42	0·55	0·19	0·05	29·52
	Idar	0·04	0·13	0·03	0·02	0·37	4·47	16·26	11·24	5·90	0·26	0·22	0·07	39·21
	Deesa	0·14	0·14	0·08	0·05	0·19	2·28	9·32	7·77	3·54	0·58	0·14	0·05	24·28
	Wadhwan	0·05	0·07	0·04	0·02	0·20	3·00	7·57	3·89	3·37	0·55	0·42	0·05	19·23
	Palanpur	0·10	0·18	0·06	0·07	0·56	2·89	10·50	10·17	5·19	0·45	0·10	0·11	30·38
	Rajkot	0·05	0·10	0·01	0·01	0·31	5·21	10·89	6·41	3·75	0·67	0·33	0·06	27·80
	Songod	0·03	0·08	0·05	0·02	0·21	3·57	8·72	4·94	5·53	1·51	0·21	0·03	24·90
	Jetalsar	0·05	0·09	0·04	0·05	0·20	5·54	12·81	5·52	4·10	1·46	0·49	0·04	30·39
HYDERABAD.	Aurangabad (Cantt.)	0·14	0·10	0·07	0·20	0·75	6·18	7·04	5·33	6·83	2·26	0·60	0·60	30·10
	Hingoli	0·36	0·26	0·26	0·54	0·68	6·93	10·37	8·19	7·59	2·31	0·89	0·38	38·76
	Parbhani	0·06	0·05	0·22	0·35	0·52	5·28	7·19	7·07	7·81	2·56	0·62	0·23	31·96
	Nandair (Nanded)	0·11	0·23	0·46	0·52	0·64	6·35	9·23	9·09	8·79	2·60	0·69	0·53	39·24
	Bheer (Bid)	0·10	0·05	0·21	0·20	0·59	5·83	5·65	5·02	8·86	2·51	0·98	0·54	30·54
	Mominabad	0·18	0·15	0·39	0·49	0·56	6·26	6·13	6·72	8·72	2·48	1·17	0·79	34·04
	Indur (Indur)	0·05	0·13	0·48	0·49	0·38	4·65	11·11	10·63	8·28	2·09	0·95	0·33	39·57
	(Yelgandal) Karimnagar.	0·21	0·21	0·37	0·54	0·79	4·76	7·84	7·41	7·06	2·81	1·05	0·28	33·33
	(Medak) Kandi	0·05	0·18	0·47	0·79	0·66	4·70	7·71	8·93	8·99	2·37	1·04	0·17	36·06
	(Ibrahimpatan) Shumsabad.	0·06	0·17	0·49	0·84	1·11	4·40	6·25	6·98	6·39	2·68	1·37	0·15	30·89
	Sundanully	0·02	0·35	0·52	0·66	0·94	4·30	5·25	7·26	8·95	2·27	1·09	0·06	31·67
	(Naldurg) Dharaseo.	0·02	0·05	0·29	0·42	1·05	6·05	5·92	7·16	9·99	3·23	0·80	0·34	35·32
	Bidar (Bidar)	0·01	0·18	0·50	0·98	1·00	5·74	8·88	8·79	9·21	3·46	1·30	0·52	40·57
	Gulbarga (Gulbarga).	0·07	0·20	0·29	0·84	1·18	4·93	4·91	5·97	7·19	3·08	0·69	0·24	29·59
	Bolaram	0·10	0·19	0·54	0·61	1·05	3·72	6·55	7·10	5·87	3·01	0·94	0·31	29·99
	Secunderabad	0·23	0·23	0·72	0·69	1·28	3·78	6·03	6·09	5·50	3·14	0·95	0·20	28·84
	Hyderabad (Residency).	0·09	0·09	0·54	0·68	0·80	4·40	5·91	6·56	6·89	3·29	1·25	0·40	30·90
	Zanawada (Hyderabad).	0·06	0·53	0·61	0·74	0·85	3·98	6·07	6·88	7·76	2·40	1·03	0·01	30·92
	(Nalgunda) Bhongir.	0·13	0·08	0·41	0·54	0·91	3·46	4·70	5·21	5·95	3·17	1·75	0·11	26·42
	Khammam (Hanumkonda) (Warangal).	0·23	0·22	0·79	0·46	0·74	4·46	8·34	7·41	6·99	2·36	1·17	0·26	33·43
	Sirpur-Tandur	0·04	0·41	0·37	0·32	0·46	6·59	13·34	9·72	6·55	2·06	0·93	0·53	41·32

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.—contd.*

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
HYDERABAD—*concld.*	Mahbubnagar (Palmoor).	0·02	0·10	0·41	0·68	1·24	3·95	6·86	7·20	6·14	2·86	0·75	0·24	30·45
	Raichur . .	0·02	0·07	0·30	0·65	0·95	3·71	4·69	5·51	6·29	3·83	0·96	0·10	27·08
	Raichur (Cantt.)	0	0·15	0·34	0·64	1·41	3·58	4·45	5·63	6·53	2·54	0·86	0·13	26·26
MADRAS .	Rambha . .	0·18	0·80	0·93	0·79	1·58	5·54	6·34	7·03	8·27	9·58	2·21	0·81	44·06
	Gopalpur .	0·13	0·47	0·66	0·67	2·09	6·18	7·55	8·04	7·14	9·54	4·11	0·72	47·30
	Aska . .	0·20	0·61	1·35	1·41	3·01	6·36	7·65	8·79	8·07	6·60	2·13	0·47	46·65
	Vizianagram .	0·12	0·46	0·96	0·57	2·43	4·59	5·02	6·63	8·00	7·95	2·39	1·04	40·16
	Bimlipatam .	0·21	0·46	0·22	0·30	1·91	3·25	3·59	4·46	6·30	8·25	2·88	0·90	32·73
	Rayaghadda .	0·10	0·40	0·92	1·69	3·32	7·62	9·40	8·95	6·47	3·86	1·33	0·54	44·60
	Nourangapur .	0·11	0·29	0·45	1·42	1·76	8·81	18·63	18·49	11·14	3·18	0·72	0·07	65·07
	Gunipore .	0·06	0·53	1·14	1·89	2·66	7·20	10·22	10·78	7·78	4·66	1·60	0·28	48·80
	Jaipur . .	0·06	0·28	0·71	1·38	2·31	10·92	20·18	20·60	12·94	4·41	1·16	0·44	74·99
	Koraput . .	0·09	0·23	0·76	1·07	2·64	8·69	15·66	15·20	10·61	3·94	1·30	0·19	60·38
	Malkanagiri .	0·01	0·12	0·47	1·18	1·81	8·80	19·14	17·63	13·54	3·50	0·94	0·04	67·18
	Narsapatnam .	0·23	0·45	0·93	1·34	3·75	5·01	5·35	5·52	8·65	7·84	2·77	0·72	42·56
	Waltair . .	0·26	0·25	0·35	0·71	2·61	4·30	4·74	5·82	7·80	10·98	4·67	1·49	43·98
	Cocanada .	0·17	0·33	0·32	0·51	1·78	4·29	5·58	5·43	6·32	8·90	4·13	0·71	38·47
	Rajahmundry .	0·14	0·25	0·32	0·91	2·93	4·84	7·09	6·67	7·15	6·45	1·98	0·15	38·88
	Ellore . .	0·16	0·17	0·37	0·58	1·37	4·32	5·88	6·42	7·33	5·76	2·29	0·28	34·93
	Masulipatam .	0·17	0·16	0·26	0·40	1·34	4·33	5·67	6·09	6·56	8·36	4·43	0·53	38·30
	Guntur . .	0·24	0·19	0·46	0·60	1·58	3·72	5·03	5·77	5·76	5·97	2·32	0·36	32·00
	Vinukonda .	0·19	0·09	0·25	0·64	1·50	2·52	2·97	3·82	4·80	5·72	3·14	0·51	26·15
	Ongole . .	0·22	0·09	0·21	0·43	1·33	1·92	2·93	3·89	5·95	9·58	6·82	0·88	34·25
	Nellore . .	0·47	0·09	0·18	0·26	1·17	1·40	2·29	3·22	3·52	9·50	10·17	3·04	35·31
	Udayagiri .	0·31	0·21	0·44	0·78	1·53	1·37	1·86	2·10	2·92	7·74	6·79	1·87	27·92
	Tada . .	0·52	0·48	0·18	0·27	1·59	2·10	2·75	3·97	4·06	9·95	11·50	4·19	41·56
	Kurnool . .	0·05	0·03	0·43	0·86	1·61	3·23	5·13	5·92	6·45	3·77	0·90	0·15	28·53
	Nandayal .	0·07	0·04	0·16	0·50	1·45	4·47	5·28	6·93	8·29	4·67	1·00	0·17	33·03
	Bellary . .	0·10	0·03	0·42	0·83	1·93	1·84	1·41	2·18	4·12	4·04	1·20	0·20	18·30
	Gooty . .	0·03	0·05	0·08	0·16	1·60	2·49	2·81	4·07	4·79	4·10	1·21	0·11	21·80
	Adoni . .	0·04	0	0·26	0·69	1·45	3·61	3·79	5·31	5·81	3·93	0·81	0·15	25·86
	Dharmavaram .	0·01	0·10	0·16	0·50	1·34	2·30	1·60	2·86	4·85	4·48	1·83	0·25	20·28
	Cuddapah .	0·15	0·04	0·17	0·42	1·59	2·66	3·70	5·42	6·03	5·26	3·03	0·80	29·27
	Madanapalle .	0·11	0·13	0·30	0·97	2·37	2·25	2·08	3·23	4·68	5·94	3·79	1·08	26·93
	Chittoore . .	0·27	0·21	0·32	0·67	2·70	2·53	2·94	4·82	6·22	6·51	4·66	2·00	33·85
	Vellore . .	0·49	0·33	0·19	0·71	3·00	2·63	3·58	5·29	6·14	7·51	5·89	2·88	38·64

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
MADRAS—*contd.*	Chandragiri	0·18	0·22	0·21	0·58	1·99	2·34	2·56	4·38	4·97	5·74	6·47	2·34	31·98
	Arcot	0·37	0·44	0·36	0·68	2·14	2·72	3·72	5·86	5·96	6·16	5·87	2·84	37·12
	Madras	0·83	0·28	0·37	0·65	1·96	2·06	3·80	4·66	4·84	10·93	13·30	5·25	48·93
	Palmaner	0·15	0·20	0·38	0·78	2·77	2·92	2·83	4·41	6·18	6·74	4·22	1·61	33·19
	Saidapet	0·52	0·41	0·26	0·55	1·67	2·24	3·77	4·92	5·57	11·12	14·11	5·21	50·35
	Chingleput	0·39	0·32	0·13	0·44	1·37	2·61	3·77	5·46	5·06	8·52	10·05	4·29	42·41
	Conjeeveram	0·42	0·26	0·11	0·70	1·78	2·67	4·12	5·96	6·07	7·09	8·42	3·62	41·22
	Tindivanam	0·39	0·54	0·25	0·85	2·09	1·90	3·12	6·53	6·84	8·24	8·26	3·88	42·89
	Cuddalore	0·85	0·38	0·34	0·91	1·38	1·54	2·76	5·05	5·30	9·96	13·61	7·06	49·14
	Vriddhachalam	0·34	0·31	0·27	0·80	1·91	1·58	2·80	5·48	5·51	7·01	7·33	4·04	37·38
	Udayarpalaiyam	0·63	0·45	0·31	1·06	2·85	1·63	2·68	4·80	5·26	7·36	7·70	5·06	39·79
	Salem	0·26	0·23	0·80	2·04	4·55	2·95	3·70	6·03	6·51	6·83	2·88	0·92	37·70
	Atur	0·29	0·32	0·70	1·47	3·83	1·65	2·39	4·33	5·78	7·74	4·86	1·53	34·89
	Shevaroy Hills	0·38	0·48	0·76	2·58	6·15	5·42	7·33	9·96	9·65	10·34	6·25	3·27	62·57
	Kumbakonam	0·55	0·55	0·51	0·81	2·24	2·08	2·39	4·68	4·93	8·33	8·41	5·95	41·43
	Tirupatur	0·09	0·31	0·44	1·01	4·30	2·75	3·44	5·20	7·49	6·08	3·62	1·00	35·73
	Hosur	0·18	0·31	0·43	1·76	4·24	2·09	2·39	4·43	5·43	5·98	3·50	0·99	31·73
	Tranqueber	1·05	0·46	0·11	1·02	1·54	1·19	2·42	4·07	3·82	10·18	14·85	10·15	50·86
	Negapatam	1·15	0·72	0·32	1·02	1·81	1·30	1·74	3·29	3·55	10·08	15·02	11·23	51·23
	Tanjore	0·52	0·43	0·42	1·13	2·06	1·56	1·88	3·92	4·99	6·24	5·93	4·27	33·35
	Patukota	0·76	0·75	0·53	1·86	2·26	1·63	2·15	4·65	3·75	7·58	7·99	6·00	39·91
	Trichinopoly	0·79	0·57	0·57	2·16	3·48	1·39	1·83	4·35	5·01	7·72	5·01	2·99	35·87
	Karur	0·20	0·17	0·30	1·88	3·52	1·46	1·07	2·91	3·85	6·02	3·10	1·43	25·91
	Coimbatore	0·35	0·31	0·53	1·86	2·33	1·80	1·21	1·15	1·32	5·99	3·19	1·00	21·04
	Kollegal	0·15	0·12	0·82	2·04	5·44	2·45	2·25	4·70	6·21	7·13	2·51	0·56	34·38
	Dindigul	0·45	0·43	0·51	2·17	3·05	1·93	1·47	2·32	3·22	6·43	4·70	2·69	29·37
	Madura (Obsy.)	0·51	0·47	0·63	2·48	2·66	1·50	2·01	4·35	4·69	8·90	5·05	2·04	35·29
	Vattanum	0·93	0·93	0·81	2·85	1·49	0·84	0·93	1·87	2·03	7·97	8·08	5·65	34·38
	Periyakulam	0·63	0·98	1·73	2·69	2·73	1·08	0·69	1·92	2·57	7·55	4·77	1·53	28·87
	Tinnevelly	1·01	0·90	1·43	2·05	1·48	0·62	0·27	0·50	0·99	6·71	8·75	3·52	28·23
	Tuticorin	0·82	0·61	0·86	1·91	0·89	0·21	0·16	0·31	0·63	4·87	7·40	2·70	21·37
	Satur	0·31	0·72	1·05	1·97	2·29	0·60	0·92	1·69	2·30	6·87	4·04	2·00	24·76
	Cochin	0·80	0·80	2·12	5·24	12·00	30·12	21·71	12·44	8·74	12·46	5·16	1·72	113·31
	Palghat	0·06	0·23	0·75	2·94	4·52	18·02	20·18	11·70	5·85	7·60	3·01	0·64	75·50
	Wellington	1·12	1·41	2·17	3·95	3·84	3·39	3·33	3·85	5·56	10·57	7·10	3·82	50·11
	Manantoddy	0·20	0·29	1·13	3·14	4·52	24·59	33·82	19·10	7·00	5·71	2·21	0·48	102·19

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Madras—*concld.*	Calicut	0·17	0·16	0·79	3·70	9·04	36·46	29·36	14·89	7·39	9·12	3·80	1·32	116·20
	Tellicherry	0·27	0·15	0·39	3·68	8·70	41·99	37·07	18·87	9·05	7·29	3·11	0·87	131·44
	Cannanore	0·32	0·22	0·21	2·67	6·87	39·50	34·72	18·08	8·40	7·52	3·06	0·46	122·03
	Mangalore	0·13	0·07	0·11	2·06	7·26	38·47	37·39	22·88	11·09	7·90	1·97	0·50	129·83
Mysore and Coorg.	Bangalore	0·06	0·22	0·72	1·19	4·53	3·13	4·13	6·00	7·11	6·74	2·61	0·39	36·83
	Mysore	0·07	0·17	0·64	2·46	5·38	2·08	2·31	3·10	4·26	6·67	1·80	0·43	29·37
	Shimoga	0·06	0·11	0·34	1·93	3·20	4·89	7·05	4·38	3·30	5·08	1·42	0·34	32·10
	Mercara	0·18	0·09	0·92	2·48	5·50	27·88	42·13	26·94	11·93	7·93	2·48	0·50	128·96
	Kolar	0·16	0·04	0·50	1·32	3·34	3·13	3·36	4·16	5·10	5·50	3·17	0·81	30·59
	Tumkur	0·14	0·19	0·33	1·42	4·39	3·28	4·01	5·14	6·39	6·69	1·74	0·36	34·08
	Chitaldroog	0·16	0·03	0·25	1·47	3·29	2·87	2·73	2·87	3·93	4·44	2·35	0·37	24·76
	Chikmagalur	0·20	0·20	0·63	2·42	4·60	4·93	6·00	3·47	3·61	6·85	2·27	0·46	35·64
	Hassan	0·61	0·09	0·44	1·95	4·40	4·18	4·89	3·06	3·24	5·85	1·90	0·53	31·20
Ceylon.	Trincomalee	5·75	2·15	1·41	2·13	2·37	1·37	2·12	4·49	4·17	7·99	13·63	15·28	62·86
	Colombo	3·24	1·89	4·75	11·43	12·10	8·35	4·46	3·81	4·98	14·36	12·55	6·35	88·27
	Ratnapura	4·95	4·40	8·23	12·61	18·71	20·83	11·70	12·81	14·36	18·73	14·71	8·72	150·76
	Puttalam	2·06	1·31	2·88	6·11	3·58	1·86	0·41	0·72	0·93	8·74	10·97	6·48	46·05
	Anuradhapur	2·96	1·30	2·78	7·75	4·02	1·65	1·07	1·87	2·84	8·56	10·95	9·16	54·91
	Mannar	2·29	1·28	1·50	2·78	2·41	0·62	0·23	0·48	1·04	8·15	10·19	7·94	38·91
	Jaffna	1·94	1·22	0·92	2·47	1·95	0·73	0·75	1·50	2·60	9·81	13·57	11·00	48·46
	Batticoloa	8·10	3·92	3·08	1·86	1·71	1·03	1·10	2·32	2·62	6·43	12·35	16·68	61·20
	Hambantota	3·63	1·53	2·14	2·62	3·24	2·56	1·32	1·42	2·37	4·78	6·89	5·41	37·91
	Galle	4·23	2·83	4·39	10·39	11·00	8·11	5·33	5·46	7·52	13·19	12·02	6·29	90·76
	Kandy	4·94	2·40	3·43	7·19	6·11	9·13	7·04	5·91	5·75	11·98	10·48	9·11	83·47
	Nuwara Eliya	5·28	2·05	3·16	6·03	7·81	13·50	11·72	8·52	8·30	10·67	8·73	8·82	94·59
	Hakgala	8·07	2·57	4·80	7·62	7·41	8·25	5·74	4·67	5·88	10·48	11·01	14·12	90·62
	Badulla	9·42	3·27	4·30	8·40	5·48	2·70	1·44	3·31	3·15	9·92	11·91	13·73	77·03
Burma.	Akyab	0·12	0·17	0·53	1·56	12·24	49·50	53·43	39·50	23·05	11·39	3·27	0·44	195·20
	Kyaukpyu	0·11	0·04	0·25	0·95	10·71	41·39	50·78	43·50	20·73	9·36	3·67	0·49	181·98
	Sandoway	0·08	0·07	0·10	1·07	13·34	49·18	61·78	48·05	24·17	9·81	2·71	0·29	210·65
	Rangoon	0·11	0·23	0·16	1·74	11·73	18·30	21·37	19·65	15·89	7·12	2·52	0·07	98·89
	Bassein	0·17	0·20	0·05	1·37	9·39	21·79	25·47	23·18	15·60	7·77	3·23	0·10	108·32
	Diamond Island	0·24	0·07	0·05	1·38	10·72	23·25	25·84	23·43	17·53	7·78	5·37	0·68	116·34
	Henzada	0·07	0·18	0·04	0·87	7·10	15·97	21·19	17·97	11·21	4·94	1·71	0·06	81·31
	Myanaung	0·05	0·02	0·01	0·96	5·75	10·26	10·79	10·15	8·53	4·69	1·93	0·11	53·25
	Prome	0·02	0·01	0·02	0·82	5·40	8·81	9·19	9·52	7·11	4·52	1·75	0·07	47·24

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Burma—*contd.*	Thayetmyo	0·02	0·04	0·06	0·81	4·78	7·05	7·45	7·58	6·81	4·38	1·67	0·11	40·76
	Mandalay	0·06	0·08	0·21	1·19	5·26	5·71	3·26	4·16	6·21	4·54	1·67	0·28	32·63
	Shwebo	0·08	0·07	0·24	0·72	4·73	5·37	3·52	6·12	6·02	3·49	1·11	0·15	31·62
	Ye-u	0·08	0·07	0·37	0·94	4·70	5·51	3·93	6·60	7·85	3·75	0·70	0·24	34·74
	Minbu	0·04	0·01	0·02	0·52	4·53	4·72	3·92	5·11	5·11	3·66	1·02	0·32	28·98
	Pyinmana	0·06	0·06	0·03	1·76	6·28	7·20	10·26	11·28	8·76	5·75	1·63	0·13	53·20
	Pagan	0·03	0·03	0·13	0·53	2·84	2·95	1·85	2·93	5·63	4·06	0·89	0·17	22·04
	Kyauksai	0·19	0·07	0·12	1·23	4·50	3·65	2·29	3·71	6·27	3·68	1·48	0·27	27·46
	Bhamo	0·71	0·39	0·69	1·65	6·15	13·35	19·17	16·40	8·79	3·47	0·93	0·44	72·14
	Kindat	0·25	0·28	1·03	1·41	6·18	13·04	13·29	14·39	13·12	6·04	1·48	0·38	70·89
	Magwe	0	0·02	0·02	0·90	5·33	4·48	4·28	5·05	4·65	4·64	0·90	0·44	30·71
	Yemethin	0·05	0·22	0·14	2·04	5·29	4·69	4·32	6·28	6·70	4·60	1·42	0·42	36·17
	Fort Sagaing	0·03	0·04	0·17	0·97	5·12	4·29	3·55	4·06	6·34	4·11	1·55	0·29	30·52
	Mingin	0·11	0·03	0·52	1·34	4·74	8·02	7·53	9·67	9·72	5·22	1·35	0·20	48·45
	Toungoo	0·06	0·12	0·08	1·90	6·43	13·63	17·48	18·53	11·46	6·95	1·25	0·16	78·05
	Shwegyin	0·12	0·34	0·28	2·38	11·96	28·73	34·94	32·51	19·42	9·41	1·77	0·07	141·93
	Moulmein	0·17	0·13	0·23	3·12	20·33	37·68	44·45	42·74	29·65	7·90	1·44	0·03	187·85
	Tavoy	0·17	0·54	0·93	3·86	19·23	40·22	46·75	43·73	33·09	9·73	2·20	0·10	200·55
	Mergui	0·72	1·69	2·73	6·05	18·34	30·58	30·61	29·31	26·78	12·57	3·20	0·40	163·00
	Myingyan	0·04	0·05	0·08	0·33	3·28	2·96	3·19	4·37	5·88	3·22	1·06	0·19	24·65
	Monywa	0	0	0·23	0·71	3·54	5·26	2·62	4·61	6·27	3·94	1·03	0·16	28·37
Bay Islands.	Port Blair	0·90	0·96	0·34	2·94	16·73	17·95	15·46	14·81	18·85	11·68	8·53	5·55	114·70
	Cocos Island	0·31	0·11	0	0·93	9·95	13·04	13·99	13·50	12·67	6·20	6·17	1·10	77·97
Kashmir.	Leh	0·32	0·35	0·25	0·24	0·26	0·21	0·47	0·51	0·21	0·20	0·03	0·18	3·23
	Srinagar	3·36	4·24	3·10	3·30	2·72	1·77	2·78	1·95	1·18	1·14	0·41	1·08	27·03
	Skardu	1·67	1·19	1·21	2·67	1·05	0·40	0·30	0·96	0·67	0·03	0·09	0·72	10·96
	Gilgit	0·15	0·15	0·43	1·12	0·42	0·25	0·72	0·40	0·22	0·16	0·04	0·08	4·14
Nepal	Katmandu	0·87	1·07	1·21	2·05	4·00	9·33	14·15	14·14	7·28	2·31	0·18	0·26	56·85
Extra India.	Meshed	0·29	0·92	2·00	1·90	0·97	0·24	0·02	0·01	0·07	0·59	0·65	0·64	8·30
	Teheran	1·17	0·85	2·44	0·87	0·41	0·04	0·35	0·04	0·11	0·14	1·17	1·33	8·92
	Ispahan	0·21	0·21	0·83	0·60	0·10	0	0·05	0	0	0·27	0·84	0·47	3·58
	Bushire	3·12	2·48	0·91	0·48	0·01	0	0	0	0	0·12	1·98	3·39	12·49
	Jask	0·63	1·07	0·99	0·03	0	0·10	0·02	0	0	0·06	0·54	0·94	4·38
	Muscat	1·46	0·86	1·00	0·03	0	0·32	0·04	0	0	0·02	0·65	0·54	4·92
	Baghdad	1·28	2·07	1·57	0·88	0·22	0·01	0	0·09	0	0·04	1·04	1·75	8·95
	Aden	0·27	0·23	0·74	0·25	0·17	0·04	0·04	0·13	0·12	0·01	0·13	0·13	2·26

TABLE XXX.—*Normal monthly and annual rainfall at 549 stations in Baluchistan, India, Ceylon, etc.*—concld.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
EXTRA INDIA—*concld.*	Perim . .	0·43	0·36	0·37	0·01	0·37	0	0·17	0·43	0·01	0·05	0·05	0·07	2·32
	Kabul . .	1·02	0·83	4·68	2·15	0·63	0·18	0·21	0·16	0·02	0·10	0·99	0·25	11·22
	Kashgar . .	0·31	0·04	0·21	0·20	0·79	0·40	0·34	0·71	0·29	0·03	0·02	0·18	3·52
	Zanzibar . .	3·26	1·51	6·27	11·94	10·23	1·36	2·75	1·68	2·10	3·74	8·23	4·18	57·25
	Port Victoria (Seychelles).	18·56	12·34	12·47	4·75	4·46	5·80	2·57	2·91	5·00	5·54	11·75	15·09	101·24
	Mauritius .	7·16	7·05	8·23	5·16	4·07	1·91	2·25	2·37	1·38	1·58	1·89	4·93	47·98

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years.*

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.	Inches.
BALUCHISTAN.	Kalat . .	—1·74	—2·24	—1·30	—0·19	—0·11	+1·04	—0·49	—0·35	—0·04	+0·08	+0·12	?	?
	Pishin . .	—2·48	—2·17	—1·09	—0·50	—0·23	+0·13	—0·16	—0·16	—0·01	+0·37	—0·23	—0·72	—7·25
	Chaman . .	—1·29	—2·04	—1·24	—0·56	—0·06	—0·09	—0·11	0	0	+0·81	—0·46	—0·19	—5·23
	Quetta . .	—1·83	—2·07	—0·26	—0·49	—0·33	+0·30	—0·40	—0·51	—0·11	+0·90	+0·21	—0·50	—6·09
	Mach . .	—1·24	—1·75	—0·58	—0·31	+0·16	—0·26	—0·99	—0·65	—0·03	—0·32	+0·05	—0·60	—6·52
	Beleli . .	—1·76	—2·39	—1·08	—0·92	—0·29	—0·02	—0·09	—0·40	—0·03	+0·62	—0·44	—1·12	—7·92
	Kuchelak . .	—2·15	—2·29	—1·39	—0·09	—0·28	+0·72	—0·13	—0·16	—0·12	+0·40	—0·41	—1·11	—7·01
	Fort Sandeman .	—0·70	—1·21	—1·15	—0·80	—0·36	—0·06	—0·18	—0·11	—0·06	—0·02	—0·31	—0·38	—5·34
	Bostan . .	—2·09	—2·46	—1·15	—0·16	—0·13	—0·03	—0·30	—0·13	—0·03	+0·26	—0·16	—1·18	—7·56
	Yarookarez .	—1·57	—2·01	—0·51	—0·21	—0·07	+0·21	—0·01	—0·15	0	+0·20	+0·01	—0·13	—5·24
	Syed Hamed .	—1·83	—2·46	—1·05	—0·28	—0·03	—0·01	0	0	0	+0·07	—0·35	—0·21	—6·15
	Gulistan . .	—1·81	—2·15	—1·35	—0·41	—0·14	—0·04	—0·03	0	—0·04	+0·23	—0·80	—0·08	—6·62
	Killa Abdulla .	—1·80	—2·52	—1·14	—0·64	—0·13	—0·03	—0·08	—0·02	—0·02	+0·13	—0·95	—0·34	—7·54
	Khania . .	—2·20	—2·25	—1·08	—0·69	—0·04	—0·02	—0·17	—0·13	0	+0·46	—0·17	—0·58	—6·87
	Fuller's Camp .	—2·10	—2·72	—1·23	—0·93	—0·41	—0·12	—0·41	—0·11	—0·06	+0·51	—0·41	—0·52	—8·51
	Kachh . .	—2·14	—3·08	—1·17	—0·36	—0·25	—0·17	—0·30	—0·15	—0·11	+0·33	—0·26	—1·65	—8·97
	Mudgorge .	—1·90	—1·94	—1·25	+0·25	+0·16	+1·69	+0·24	—0·28	—0·05	+0·27	—0·49	—0·73	—4·03
	Mangi . .	—1·07	—1·59	—1·48	—0·45	—0·12	—0·10	—0·34	—0·25	—0·12	+0·12	—0·44	—1·17	—7·01
	Dirgi . .	—1·28	—1·47	—1·23	—0·30	—0·14	—0·03	+0·46	—0·28	—0·21	+0·15	—0·43	—1·08	—5·84
	Khost . .	—1·51	—1·79	—1·27	—0·31	+0·36	—0·43	—0·96	—0·30	—0·20	—0·06	—0·81	—0·90	—8·18
	Shahrig . .	—1·83	—1·88	—1·11	—0·17	+0·03	—0·45	+1·38	—1·08	+1·34	—0·02	—0·59	—0·76	—5·14
	Nasak . .	—1·10	—1·89	—1·16	—0·28	—0·25	+0·18	—0·91	+0·76	+1·09	—0·08	—0·56	—0·97	—5·17

TABLE XXXI—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BALUCHISTAN—*concld.*	Harnai . .	—1·10	—1·81	—1·03	—0·46	+0·08	+2·10	—1·48	—1·04	+0·87	—0·07	—0·31	—0·98	—5·23
	Sunari . .	—0·91	—1·32	—0·88	—0·32	+0·07	+2·27	—2·90	—1·54	+2·61	—0·08	—0·50	—0·77	—4·27
	Spintangi .	—0·61	—1·30	—0·53	—0·25	+0·07	+0·77	—2·04	+0·51	+2·59	0	—0·33	—0·74	—1·86
	Mushkaf . .	—0·13	—0·27	—0·17	—0·03	—0·05	—0·12	—1·08	—0·80	+1·08	0	—0·07	—0·51	—2·15
	Baber Kach .	—0·53	—0·81	—0·28	—0·16	—0·09	+0·31	—0·23	+0·35	+1·37	—0·03	—0·27	—0·59	—0·96
	Loralai (Hospital)	—0·23	—0·61	—1·12	—0·36	—0·56	—0·24	—0·74	+0·50	+0·19	+0·05	—0·27	—0·47	—3·81
	Nari . .	—0·48	—0·62	—0·30	—0·08	—0·06	0	—0·24	+0·45	+1·49	—0·01	—0·17	—0·51	—0·53
	Sibi . .	—0·58	—0·38	—0·26	—0·11	+0·10	+1·51	—0·85	—1·11	+0·63	0	—0·17	—0·61	—1·83
	Kolepur . .	—1·60	—1·71	—1·29	—0·31	+0·09	+0·13	—1·00	—0·39	—0·08	+0·18	+0·08	—0·98	—6·88
	Mitri . .	—0·41	—0·30	—0·22	—0·92	+0·51	—0·22	—1·25	—0·73	+1·94	—0·01	—0·15	—0·43	—1·56
	Lindsay . .	—0·30	—0·32	—0·17	—0·07	—0·13	+0·34	—0·89	—0·16	+0·48	0	—0·12	—0·39	—1·73
	Bellput . .	—0·28	—0·16	—0·13	—0·07	—0·03	—0·17	—0·98	+0·67	+1·75	0	—0·15	—0·27	+0·18
	Nuttal . .	—0·35	—0·37	—0·14	—0·10	—0·22	—0·09	—1·07	—0·66	+1·05	0	—0·35	—0·40	—2·70
	Temple Dera .	—0·37	—0·29	—0·10	—0·07	—0·08	—0·08	—0·97	—0·48	+0·80	0	—0·18	—0·28	—2·10
	Jhatput . .	—0·22	—0·30	—0·07	—0·03	—0·07	+0·09	—0·63	+0·14	+1·72	0	—0·18	—0·24	+0·21
	Sangal . .	—1·98	—2·49	—1·92	—0·45	—0·10	+0·20	—0·13	—0·03	0	+0·22	—0·28	—0·31	—7·27
	Shulabagh .	—2·65	—3·37	—2·14	—0·25	—0·09	—0·02	—0·40	—0·02	0	+1·05	+0·04	+0·06	—8·79
	Panir . .	—0·53	—0·53	—0·49	+0·32	—0·06	—0·08	—0·61	+0·83	+1·22	—0·01	—0·09	—0·58	—0·61
	Abbottabad .	—3·41	—3·84	—0·09	+1·88	—0·47	+0·76	—3·57	—1·49	—1·08	+1·10	—0·42	—1·89	—12·52
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.	Cherat . .	—2·26	—3·21	—2·30	—1·41	—0·60	—0·19	—1·82	—0·87	+0·40	+0·89	+0·11	—1·10	—12·36
	Murree (Obsy.)	—3·73	—3·98	—1·01	+0·90	+1·12	+4·65	—7·66	—4·89	—0·85	—0·40	—0·15	—1·35	—17·35
	Poo . . .	—2·37	—2·00	+4·64	+2·87	—0·24	+0·27	+1·70	+2·08	+0·42	—0·33	—0·38	—1·19	+5·47
	Dharamsala .	—4·56	—4·68	+0·55	+1·29	—0·01	—6·80	—21·56	—19·36	+2·15	+0·11	—0·35	—2·57	—55·79
	Kailang . .	—2·01	—2·44	+4·00	+1·40	—0·80	—0·50	+0·05	—0·62	—0·28	—0·22	+0·30	—1·21	—2·33
	Kilba . .	—4·31	—2·53	+1·15	—0·13	—0·34	+0·02	+0·90	+0·28	—1·86	+0·13	—1·48	—1·75	—9·92
	Simla (Obsy.) .	—3·11	—2·28	—0·30	+0·22	—1·88	—4·32	—3·74	—9·19	—1·51	+0·19	—0·41	—1·28	—27·61
	Peshawar (Obsy)	—1·54	—1·19	—1·14	—1·12	—0·57	+0·25	—0·89	—2·12	—0·10	+0·36	—0·53	—0·55	—9·14
	Kohat . .	—1·35	—1·20	+0·13	—0·18	—0·57	—0·55	—1·33	—0·50	+0·18	+0·77	—0·63	—0·49	—5·72
	Bannu . .	—0·85	—0·77	—1·04	—0·97	—0·40	+0·21	—1·03	—0·46	+1·09	+0·31	—0·28	—0·32	—4·51
	Dera Ismail Khan	—0·44	—0·80	—0·75	—0·63	—0·25	+0·95	+0·11	—0·41	—0·48	—0·08	—0·15	—0·31	—3·24
	Dera Ghazi Khan	—0·41	—0·45	—0·15	—0·27	—0·35	+0·90	—1·52	+1·05	+0·29	+0·11	—0·11	—0·21	—1·12
	Muzaffargarh .	—0·33	—0·35	—0·19	—0·22	+0·16	+2·00	—0·56	—1·12	—0·28	—0·08	—0·08	—0·27	—1·32
	Mooltan (Obsy.)	—0·39	—0·36	—0·09	—0·15	—0·26	+2·18	—0·60	—1·43	—0·60	+0·05	—0·06	—0·27	—1·98
	Jhang . .	—0·51	—0·45	—0·31	—0·36	—0·16	—0·34	—0·72	+2·06	—0·13	+0·33	—0·06	—0·34	—0·99
	Montgomery .	—0·53	—0·60	—0·17	—0·21	+0·24	+0·93	—2·36	—0·63	—0·60	—0·05	—0·05	—0·27	—4·30
	Shahpur . .	—0·82	—0·95	—0·37	—0·26	+0·69	+0·32	—2·23	+2·50	—0·46	—0·15	—0·22	—0·38	—2·33

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inches.	Inches.
Punjab and North-West Frontier Province—*concld.*	Rawalpindi	2·50	−2·09	−1·09	−0·28	−0·10	+3·53	−3·21	−2·24	+0·56	+0·57	−0·57	−1·11	−8·53
	Jhelum	−1·96	−1·33	−0·84	+0·33	−0·17	+1·07	+1·73	−2·49	+1·76	−0·39	−0·19	−0·77	−3·25
	Gujarat	−1·90	−1·27	−0·67	+0·06	+0·34	+0·85	−1·52	−1·12	−0·42	−0·27	−0·22	−0·67	−6·81
	Sialkot (Obsy.)	−1·94	−1·76	−0·75	−0·79	+0·24	+1·34	−3·31	−4·61	−1·25	−0·46	−0·25	−0·77	−14·31
	Gujranwala	−1·44	−1·16	−0·79	−0·23	+1·02	+1·25	+2·04	+1·20	+3·75	−0·01	−0·20	−0·62	+4·81
	Gurdaspur	−2·18	−1·87	−0·64	+0·28	+0·55	−1·09	−3·98	−3·83	−1·17	−0·32	−0·14	−1·09	−15·48
	Lahore	−0·87	−1·10	−0·12	−0·26	−0·07	−0·94	−4·06	−1·02	+0·35	−0·20	−0·11	−0·74	−8·87
	Amritsar	−1·28	−1·18	−0·08	−0·33	+0·04	−0·25	−6·32	−0·11	−1·05	−0·17	−0·18	−0·62	−11·53
	Ferozepore	−1·11	−0·86	−0·26	−0·51	−0·03	+0·17	−2·60	+4·39	−2·41	−0·06	−0·05	−0·47	−3·80
	Jullundar	−1·52	−1·10	−0·54	−0·27	+0·32	−2·07	−3·33	−1·31	+4·06	−0·23	−0·09	−0·71	−6·79
	Hoshiarpur	−1·90	−1·66	−0·78	−0·12	−0·18	−2·14	−2·55	−6·70	+1·91	+0·62	−0·13	−1·22	−14·85
	Ludhiana	−1·44	−1·09	−0·84	+0·53	+1·32	−0·87	−2·51	−2·62	+4·11	−0·67	−0·66	−0·73	−4·87
	Umballa	−1·53	−1·52	−0·44	+0·13	+0·13	−0·58	+0·62	−6·47	−0·88	+1·39	−0·24	−0·67	−10·06
	Sirsa	−0·73	−0·35	−0·41	−0·18	+1·02	−0·18	−3·10	−1·46	−1·71	+0·02	−0·02	−0·34	−7·44
	Hissar	−0·66	−0·14	−0·47	+0·12	+0·08	+3·27	−2·84	−3·54	−1·05	−0·27	−0·07	−0·43	−6·00
	Rohtak	−0·82	−0·56	−0·54	−0·18	−0·35	+0·18	−2·40	−3·32	−0·59	−0·34	−0·03	−0·51	−9·46
	Delhi (Obsy.)	−1·02	−0·61	−0·55	−0·12	−0·27	+3·17	+1·79	−0·90	−1·07	−0·34	−0·10	−0·43	−0·45
	Gurgaon	−0·88	−0·41	−0·43	+0·23	−0·16	−0·09	+7·37	+0·79	−0·91	−0·17	−0·04	−0·34	+4·96
	Karnal	−1·28	−1·06	−0·62	+0·08	−0·37	+0·97	+1·87	+5·23	−3·26	+1·01	−0·12	−0·50	+1·95
Sind	Kurrachee	−0·66	−0·29	−0·16	−0·13	+1·82	+10·12	−3·02	+0·87	+2·48	−0·04	−0·16	−0·17	+10·66
	Sehwan	−0·39	−0·28	−0·18	−0·16	+0·47	+1·85	−1·73	−1·00	+3·52	−0·03	−0·12	−0·14	+1·81
	Tatta	−0·30	−0·21	−0·11	−0·28	+0·94	−0·05	−2·85	+0·57	+3·40	0	−0·19	−0·09	+0·83
	Hyderabad(Obsy)	−0·25	−0·20	−0·13	−0·16	+0·40	+3·14	−1·67	+2·12	+5·17	0	−0·10	−0·05	+8·27
	Umarkot	−0·18	−0·08	−0·11	−0·08	−0·08	+1·72	−2·32	+0·69	+1·71	−0·14	−0·05	−0·03	+1·05
	Shikarpur	−0·32	−0·32	−0·35	−0·19	+0·21	+0·70	−1·00	−1·30	+2·82	0	−0·12	−0·18	−0·05
	Rohri	−0·32	−0·43	−0·34	−0·26	+1·25	+1·30	−1·08	−1·25	−0·02	−0·01	−0·11	−0·19	−1·46
	Jacobabad	−0·26	−0·27	−0·17	−0·17	−0·09	+0·17	−1·21	−0·07	+0·31	−0·01	−0·12	−0·14	−2·03
Cutch	Bhuj	−0·06	−0·11	−0·07	−0·09	+0·02	−1·39	−4·75	+1·22	+1·64	−0·64	−0·08	−0·06	−4·37
	Rhahpur	−0·06	−0·08	−0·05	−0·08	−0·15	−1·48	−4·08	+3·83	−0·28	−0·46	−0·16	−0·04	−3·09
	Nagar	−0·14	−0·09	−0·04	−0·04	−0·08	−0·79	−5·73	+2·23	+1·19	−0·24	−0·05	−0·03	−4·81
Rajputana.	Jaisalmer	−0·27	−0·15	−0·10	−0·12	+0·26	+1·70	−2·07	−1·38	+0·56	+0·06	−0·04	−0·09	−1·64
	Phalodi	−0·17	−0·16	−0·09	−0·02	−0·27	+5·24	−3·40	+0·68	+0·03	0	0	−0·14	+2·10
	Bikaner	−0·38	−0·24	−0·18	−0·14	−0·77	+0·19	−2·36	−1·72	+0·33	+0·07	−0·06	−0·18	−5·44
	Nagar	−0·32	−0·14	−0·15	0	−0·57	−0·32	−2·56	−1·10	−0·43	+0·33	−0·07	−0·29	−5·62
	Didwana	−0·41	−0·16	−0·25	−0·06	+0·34	+0·92	−1·68	−4·79	+0·54	+0·30	−0·13	−0·29	−5·67
	Jhunjhunu	−0·73	−0·22	−0·23	+0·11	−0·01	−0·11	−4·90	−4·51	+1·03	+0·65	−0·07	−0·29	−9·28

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inch.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
Rajputana—*concld.*	Khetri	−0·73	−0·55	−0·38	−0·12	+0·43	+3·63	−1·15	−4·65	+0·14	+1·09	−0·15	−0·35	−2·79
	Sikar	−0·49	−0·14	−0·21	−0·03	+0·34	−0·03	−4·20	−4·52	−0·13	+0·63	−0·10	−0·30	−9·18
	Sri Madhopur	−0·51	0	−0·23	−0·10	−0·18	−0·29	−3·82	−5·08	+0·14	+0·95	−0·18	−0·49	−9·79
	Alwar	−0·55	−0·42	−0·29	−0·11	−0·90	−0·78	−1·40	−5·24	−1·51	−0·47	−0·17	−0·44	−12·28
	Bharatpur	−0·40	−0·24	−0·32	−0·09	−0·33	−0·72	+9·05	−3·71	+0·49	−0·35	−0·05	−0·92	+3·13
	Bandikui	−0·34	−0·19	−0·30	−0·09	−0·23	+0·06	+2·63	−1·51	−1·31	+0·63	−0·16	−0·40	−1·21
	Jaipur	−0·43	−0·19	−0·31	−0·14	−0·03	−1·56	−3·96	−3·91	+4·92	−0·15	−0·16	−0·35	−5·27
	Sambhar	−0·30	−0·17	−0·20	−0·05	−0·13	+0·10	+0·21	−5·23	−0·71	−0·13	−0·22	−0·40	−7·23
	Karauli	−0·25	−0·20	−0·15	−0·09	−0·40	−3·29	+12·87	−7·72	+0·26	+0·74	−0·09	−0·34	+1·34
	Lalsot	−0·29	−0·09	−0·13	−0·06	−0·20	−1·80	+0·27	−6·11	+2·31	+0·68	−0·10	−0·21	−5·73
	Tonk	+0·02	−0·27	−0·18	−0·08	−0·05	−1·69	+5·29	−4·17	+2·29	+0·26	−0·07	−0·24	+1·11
	Siwai Madhopur	+0·42	−0·22	−0·20	−0·10	−0·29	−1·90	+5·14	−9·81	+1·11	+1·43	−0·10	−0·18	−4·70
	Deoli	−0·08	−0·20	−0·14	−0·16	−0·52	−2·69	−3·09	−5·79	−0·06	−0·08	−0·12	−0·19	−13·12
	Kotah	+0·13	−0·13	−0·09	−0·12	−0·42	−2·14	+0·22	−4·97	+2·40	−0·26	−0·15	+0·06	−5·47
	Jhalrapatan	−0·02	−0·23	−0·13	−0·05	−0·35	−5·38	+0·85	−2·39	−0·52	−0·30	−0·23	−0·35	−9·01
	Ajmer	−0·31	−0·28	−0·31	0	+0·86	−0·66	−3·31	−2·61	+2·25	−0·29	−0·20	−0·29	−5·05
	Nasirabad	−0·17	−0·31	−0·11	−0·03	+0·56	−1·47	−5·16	−1·72	−0·23	−0·09	−0·18	−0·31	−9·22
	Malpura	−0·30	−0·05	−0·24	+0·09	+0·16	−0·55	−2·34	−4·02	−0·84	−00·2	−0·02	−0·26	−8·39
	Beawar	−0·22	−0·11	−0·16	−0·12	−0·23	−1·07	−3·56	−2·37	+0·93	+0·19	−0·18	−0·25	−7·15
	Jadhpur	−0·24	−0·16	−0·03	−0·06	−0·45	+0·77	−3·42	−1·74	−0·91	−0·19	−0·10	−0·14	−6·67
Central India.	Pachpadra	−0·34	−0·07	−0·10	−0·05	−0·67	−1·10	−4·09	+0·11	−1·18	−0·03	−0·09	−0·12	−7·73
	Jasol	−0·18	−0·06	−0·08	−0·05	−0·52	−1·18	−3·38	+1·35	−0·12	−0·01	−0·18	−0·08	−4·49
	Barmer	−0·15	−0·09	−0·07	−0·06	−0·33	+0·19	−3·20	−0·94	+0·65	−0·03	−0·11	−0·05	−4·19
	Pali	−0·12	−0·02	−0·09	−0·04	−0·32	−0·63	−2·41	−0·49	+2·97	−0·08	−0·25	−0·10	−1·58
	Shahpura	−0·01	−0·16	−0·15	−0·17	−0·10	−3·30	−1·16	−3·10	−0·72	−0·09	−0·10	−0·24	−9·32
	Erinpura	−0·17	−0·21	−0·10	−0·05	−0·32	−1·88	−3·96	+0·64	+5·87	−0·34	−0·19	−0·16	−0·87
	Sirohi	−0·15	−0·14	−0·08	−0·15	−0·58	−3·03	−6·46	−2·22	+1·66	+0·05	−0·22	−0·13	−11·45
	Mount Abu	−0·27	−0·31	−0·15	+0·06	−0·67	−4·41	−20·85	−14·70	−4·36	−1·09	−0·28	−0·20	−47·23
	Kotra	−0·11	−0·21	−0·03	−0·04	+0·11	−3·06	−4·55	−4·09	+2·57	−0·25	−0·18	−0·15	−9·99
	Udaipur	−0·05	−0·15	−0·07	−0·01	+0·18	−2·60	−3·99	−3·55	+6·73	+0·67	−0·18	+0·04	−2·98
	Partabgarh	+0·22	−0·10	−0·02	−0·03	−0·32	−5·55	+0·66	−1·02	+1·86	+0·95	−0·25	+0·36	−3·24
	Kherwara	−0·09	−0·16	−0·05	+0·34	+1·23	−4·31	−2·48	−1·40	+4·09	−0·39	−0·15	+0·25	−3·12
	Banswara	−0·26	−0·13	−0·01	+0·84	−0·31	−4·69	−1·01	−4·65	+7·33	−0·67	−0·22	−0·17	−3·95
	Neemuch (Obsy.)	+0·36	−0·10	−0·08	+0·16	−0·33	−3·54	+2·40	+3·42	+0·34	−0·04	−0·14	−0·13	+2·35
	Sirdarpore	+0·37	−0·18	−0·02	−0·02	−0·25	−4·35	+1·80	+1·10	−0·12	+0·41	−0·20	+0·48	−0·98
	Agar	+1·43	−0·29	−0·03	−0·06	−0·15	−3·39	−1·33	−3·09	−1·22	+1·02	+0·28	+0·26	−6·57

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Central India—*concld.*	Rutlam	+2·46	−0·18	−0·02	+0·52	−0·21	−4·90	+2·05	−5·53	+7·07	−0·74	−0·17	+1·17	+1·72
	Indore	+0·01	−0·24	−0·05	−0·06	−0·37	−4·25	−0·16	−0·48	−0·78	+0·62	+0·05	+0·98	−3·73
	Bhopal (Sehore)	−0·05	+0·07	−0·14	−0·01	−0·30	−6·77	−5·36	−6·87	+1·06	−0·37	−0·38	+0·95	−14·17
	Goona	−0·44	+0·08	−0·18	−0·12	−0·40	−6·18	+16·53	−8·54	−3·33	−0·25	−0·34	−0·32	−3·49
	Morar	−0·30	0	−0·15	−0·10	−0·10	−2·89	+4·88	−8·10	+0·33	−0·25	−0·04	−0·36	−7·08
	Nowgong	−0·29	+0·46	−0·21	−0·10	−0·31	−6·13	+15·37	−9·11	−0·41	−0·84	+0·12	−0·48	−1·93
	Sutna	+0·02	−0·14	−0·38	−0·07	−0·36	−6·09	+0·52	−3·33	+1·16	−0·98	+0·83	−0·39	−9·21
	Nagode	−0·48	−0·25	−0·29	−0·14	−0·05	−5·23	+1·01	+1·95	+1·35	−1·85	+0·89	−0·47	−3·56
	Maihar	−0·21	+0·14	−0·28	−0·11	−0·20	−6·16	−1·28	−1·93	+1·38	−1·45	+1·04	−0·50	−9·56
	Rewah	+0·13	−0·37	−0·26	−0·24	+0·05	−7·36	+1·82	−8·88	−3·60	−1·72	+0·63	−0·38	−20·18
	Ramnagar	−0·03	+1·21	−0·27	−0·05	−0·32	−7·93	+0·09	−7·94	+5·54	−1·08	+1·79	−0·49	−9·46
	Sihawal (Bardi)	+0·23	+0·25	−0·60	−0·08	−0·34	−4·33	+7·75	−2·04	+0·78	−1·02	−0·48	−0·49	−0·37
	Tyonthar	+0·07	−0·43	−0·31	−0·08	−0·38	−5·65	+6·01	−5·88	+0·62	−1·88	−0·17	−0·49	−8·57
	Sohagpur	−0·57	−0·24	−0·45	+0·05	+0·04	−5·91	+5·14	+12·26	−0·71	−1·24	+0·20	−0·36	+8·21
United Provinces.	Chakrata	−3·14	−2·18	−0·40	+1·66	+1·88	−4·54	+4·73	−6·72	−0·05	+1·26	−0·26	−1·30	−9·06
	Mussooree	−2·93	−2·45	−0·77	+1·47	+1·26	−6·86	+0·73	−2·85	+7·96	+1·15	−0·42	−1·23	−4·94
	Srinagar	−2·31	−2·19	−0·78	+1·11	+1·52	−1·48	+4·61	−1·54	−1·23	+0·23	−0·25	−0·70	−3·01
	Pauri	−2·61	−2·50	−1·14	+1·66	+0·58	−0·96	+4·46	−5·07	−1·46	+0·12	−0·30	−0·75	−7·97
	Ranikhet	−2·52	−1·54	−1·06	+0·43	−1·26	−1·81	−2·35	−0·86	+0·78	−0·83	−0·28	−0·89	−12·19
	Almora	−2·10	−1·51	−1·13	+0·69	−0·58	−0·17	−0·91	+0·21	+0·33	−0·37	−0·21	−0·62	−6·10
	Pithoragarh	−2·14	−2·21	−1·23	−0·27	+0·07	−3·54	+3·15	−4·10	+0·82	+0·89	−0·17	−0·68	−9·40
	Naini Tal	−3·11	−1·93	−2·13	+0·25	−1·25	−10·26	+2·61	+12·07	−5·01	−0·61	−0·25	−1·15	−10·71
	Dehra Dun	−2·26	−1·71	−0·75	+0·97	−0·46	−5·39	−7·13	−4·98	+0·88	+0·48	−0·21	−0·68	−21·24
	Saharanpur	−1·47	−1·32	−0·81	+0·33	+0·58	+0·27	+1·32	+1·03	−2·71	−0·28	−0·22	−0·68	−3·96
	Roorkee	−1·85	−1·48	−0·71	+1·45	+0·36	+2·32	−1·02	+3·75	−1·04	−0·50	−0·24	−0·52	+0·52
	Muzaffarnagar	−1·26	−0·21	−0·78	−0·34	−0·10	+1·26	+2·05	+9·96	−3·89	−0·34	−0·11	−0·42	+6·22
	Bijnor	−1·26	−1·13	−0·76	+0·07	+0·84	−0·23	−0·84	+5·77	−3·67	−0·01	−0·13	−0·38	−1·73
	Meerut	−1·05	−0·83	−0·59	−0·03	−0·14	+2·15	+1·80	+4·33	−1·59	+0·74	−0·08	−0·40	+4·31
	Moradabad	−1·21	−0·66	−0·71	+0·27	−0·51	−2·34	+2·12	−2·40	−2·38	−0·48	−0·12	−0·40	−8·82
	Rudarpur	−1·38	−0·91	−0·81	−0·07	+0·74	−1·53	+4·41	−2·82	+3·47	+0·08	−0·08	−0·45	+0·65
	Pilibhit	−1·16	−1·18	−0·71	−0·25	−0·58	−1·28	+4·67	−6·04	+0·48	+1·01	−0·09	−0·47	−5·60
	Bulandshahr	−0·82	−0·90	−0·42	−0·15	−0·38	−1·39	+0·93	+4·78	−1·21	−0·02	−0·07	−0·44	−0·09
	Bareilly	−1·06	−0·71	−0·60	−0·11	−0·51	−3·46	+0·56	+0·65	+2·92	+0·01	−0·10	−0·31	−2·72
	Budaun	−0·88	−0·59	−0·44	+0·44	−0·31	−1·89	−4·54	−5·27	+0·10	−0·84	−0·10	−0·32	−14·64
	Shahjahanpur	−0·86	−0·74	−0·52	+0·58	−0·84	−3·89	+0·29	−4·76	+0·66	+0·12	−0·13	−0·30	−10·39
	Aligarh	−0·76	−0·49	−0·36	−0·17	−0·45	−0·49	+5·48	−3·43	−1·72	−1·44	−0·04	−0·35	−3·22

TABLE XXXI—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inch.	Inches.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inch.	Inch.	Inches.
United Provinces—*concld.*	Muttra	−0·53	−0·35	−0·18	−0·10	−0·52	−1·24	+1·18	−3·42	+1·12	−0·35	−0·06	−0·27	−4·72
	Agra	−0·53	−0·33	−0·25	−0·12	−0·59	−0·91	+1·01	−1·99	−0·10	−0·35	−0·06	−0·29	−4·51
	Etah	−0·54	−0·35	−0·46	+0·06	−0·21	−2·03	−0·01	−3·68	−1·12	−0·51	−0·05	−0·29	−9·19
	Mainpuri	−0·68	−0·37	−0·27	−0·13	−0·45	−3·20	−1·09	−1·52	+0·04	−0·78	−0·10	−0·37	−8·92
	Farrukhabad	−0·65	−0·39	−0·36	−0·09	−0·51	−2·83	+5·30	−5·07	+3·28	−0·94	−0·09	−0·33	−2·68
	Etawah	−0·53	−0·29	−0·37	−0·12	−0·43	−2·82	−0·71	−3·78	+4·99	−0·90	−0·08	−0·31	−5·35
	Cawnpore	−0·67	−0·32	−0·23	−0·12	+0·07	−3·39	−3·52	−7·02	+11·11	−1·18	−0·13	−0·24	−5·64
	Fatehpur	−0·17	−0·28	−0·26	−0·14	−0·35	−3·43	+3·24	−4·92	+3·31	−1·08	−0·17	−028	−4·53
	Jalaun (Orai)	−0·03	−0·07	−0·20	−0·07	−0·29	−2·82	+1·32	−6·36	+7·77	−0·64	−0·05	−0·26	−1·70
	Hamirpur	+0·18	−0·09	−0·21	−0·09	−0·27	−3·74	−1·73	−4·68	+7·34	−1·05	−0·17	−0·34	−4·85
	Banda	−0·14	−0·18	−0·06	−0·10	−0·35	−4·39	+2·26	−4·76	−2·07	−1·33	−0·15	−0·28	−11·55
	Allahabad	−0·29	−0·37	−0·38	−0·14	+0·35	−3·92	+6·48	−1·68	+2·91	−2·40	−0·19	−0·23	+0·21
	Basti	−0·73	−0·46	−0·31	−0·24	−0·16	−6·24	+9·10	−8·94	+1·84	−2·05	−0·05	−0·11	−8·35
	Gorakhpur	−0·73	−0·55	−0·22	−0·22	−0·62	−6·48	+10·31	−7·01	+0·56	+0·35	−0·17	−0·13	−4·91
	Azamgarh	−0·63	−0·41	−0·08	−0·10	+0·94	−4·13	+6·69	−1·46	+3·46	−0·04	−0·10	−0·14	+4·10
	Jaunpur	−0·61	−0·13	−0·28	−0·12	+0·09	−2·83	+4·99	−7·34	+5·15	−2·80	−0·14	−0·14	−4·16
	Benares	−0·27	−0·44	−0·33	−0·15	+0·07	−4·87	+1·95	−6·89	+1·09	−0·34	−0·04	−0·17	−10·39
	Mirzapur	+0·09	−0·64	−0·48	−0·14	+0·01	−3·88	+0·77	−5·35	+6·62	−2·16	−0·01	−0·18	−5·35
	Ballia	−0·65	−0·49	+0·10	−0·26	+1·21	−4·85	−2·23	+2·18	+8·35	−3·24	−0·14	−0·12	−0·14
	Dudhi	+0·85	+0·05	−0·41	−0·12	−0·16	−5·02	+6·73	−5·83	+4·96	−3·06	+0·04	−0·30	−2·27
	Robertsganj	+1·25	+0·05	−0·42	−0·21	−0·64	−5·43	+4·19	−6·33	+5·20	−1·83	+0·21	−0·27	−4·23
	Jhansi	+1·05	−0·12	−0·33	−0·12	−0·31	−3·28	+7·64	−7·40	+1·28	−0·41	−0·07	−0·27	−2·34
	Lalitpur	+0·22	−0·03	−0·31	−0·12	−0·51	−4·88	+8·98	−8·29	−0·89	−0·79	+0·21	−0·30	−6·71
Oudh	Kheri	−0·99	−0·77	−0·47	−0·17	−0·42	−5·12	−1·03	−5·13	−1·80	−0·78	−0·16	−0·38	−17·22
	Sitapur	−0·55	−0·52	−0·44	−0·27	−0·14	−4·08	+4·05	−7·27	+1·83	+0·08	−0·15	−0·32	−8·28
	Bahraich	−0·82	−0·73	−0·42	−0·14	−0·01	−5·43	+1·07	−0·55	+7·63	−1·04	−0·12	−0·39	−0·95
	Gonda	−0·71	−0·61	−0·05	−0·24	+1·32	−3·77	+10·15	−6·00	+3·99	+0·02	−0·10	−0·28	+3·72
	Hardoi	−0·68	−0·37	−0·58	−0·17	+0·25	−2·71	+8·57	−6·88	−0·31	−1·15	−0·12	−0·36	−4·51
	Nawabganj (Bara Banki).	−0·85	−0·37	−0·38	−0·13	+0·61	−4·40	+3·98	−5·21	−1·09	−1·03	−0·07	−0·46	−9·40
	Lucknow	−0·90	−0·45	−0·32	−0·11	−0·12	−4·17	+2·78	−4·79	+3·15	−1·30	−0·08	−0·44	−6·75
	Unao	−0·83	−0·14	−0·27	−0·10	−0·43	−4·09	−1·72	−8·17	+0·94	−1·32	−0·09	−0·37	−16·59
	Fyzabad	−0·73	−0·39	−0·48	−0·17	+0·14	−4·42	+10·51	−3·32	−2·35	−1·50	−0·08	−0·23	−3·02
	Sultanpur	−0·57	−0·41	−0·22	−0·21	−0·05	−5·34	−3·94	−7·66	+7·57	−1·76	−0·15	−0·22	−12·96
	Rae Bareli	−0·44	−0·26	−0·22	−0·09	−0·24	−4·60	+5·34	−7·41	+1·34	−1·34	−0·12	−0·23	−8·27
	Partabgarh	−0·46	−0·33	−0·22	−0·04	−0·20	−4·12	+7·81	−4·85	+6·93	−2·27	−0·21	−0·29	+1·75
Bengal	Motihari	−0·57	−0·37	+1·57	+0·03	+1·58	−3·83	+10·21	+3·24	+10·36	−2·56	−0·12	−0·13	+19·41

TABLE XXXI—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Provinces.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Bengal—*contd.*	Darbhanga	−0·65	−0·45	+1·86	+0·18	+1·10	−2·03	+2·45	−4·15	+8·01	−1·10	−0·07	−0·11	+5·04
	Siwan	−0·81	−0·57	+0·07	−0·21	+0·87	−6·03	+0·71	−4·96	+2·27	−2·60	−0·14	−0·11	−11·51
	Buxar	−0·79	−0·40	−0·28	+1·33	−0·60	−4·52	+2·58	−1·95	+3·76	−2·08	−0·36	−0·19	−3·80
	Chapra	−0·74	−0·42	+0·07	−0·02	−0·31	−3·59	−5·64	−3·41	+6·82	−2·62	−0·22	−0·09	−10·17
	Arrah	−0·88	−0·61	−0·08	+0·06	−0·18	−4·96	+2·25	−2·70	+0·15	−1·93	−0·21	−0·13	−9·22
	Patna (Bankipore)	−0·72	−0·43	−0·11	+0·42	−0·48	−5·71	−0·79	−0·64	+11·01	−1·25	−0·20	−0·14	+0·96
	Muzaffarpur	−0·79	−0·47	+0·99	−0·19	−1·22	−5·14	+3·73	−1·83	+6·60	−0·81	−0·12	−0·07	+0·68
	Barh	−0·65	−0·58	−0·08	+0·38	−1·07	−2·53	−0·46	−2·49	+4·44	−1·68	−0·18	−0·09	−4·99
	Sasaram	+0·55	−0·51	−0·14	+0·03	−0·80	−3·49	+15·98	−5·70	+1·44	−1·86	+0·08	−0·23	+5·35
	Gaya	−0·12	−0·59	−0·45	−0·12	−0·47	−4·86	+4·47	−6·04	+7·47	−2·25	+0·06	−0·17	−3·07
	Jamui	−0·75	−0·70	−0·34	−0·05	−1·01	−2·86	−4·47	0	+3·90	−2·17	−0·09	−0·07	−8·61
	Madhipura	−0·58	−0·66	+2·22	−0·02	+0·59	−2·85	−2·85	−4·35	+15·99	−2·26	−0·06	−0·05	+5·12
	Monghyr	−0·51	−0·62	+0·60	+0·75	−1·57	−3·92	−0·03	−4·24	+3·21	−1·66	−0·20	−0·07	−8·26
	Bhagalpur	−0·55	−0·68	+0·17	+1·10	−1·30	−3·40	+0·57	−4·44	+3·86	−2·57	−0·12	−0·07	−7·43
	Godda	−0·56	−0·63	−0·45	+1·94	−2·01	−3·90	+6·05	−6·29	+4·00	−1·88	−0·25	−0·08	−4·06
	Palamau	−0·20	−0·17	−0·59	−0·01	−1·04	−5·63	−2·71	−7·13	+7·32	−2·33	−0·28	−0·29	−13·06
	Hazaribagh	−0·29	−0·33	+0·06	−0·12	+1·93	−6·40	+0·52	−6·01	+4·53	−2·74	−0·25	−0·21	−9·31
	Ranchi	−0·69	−0·16	+0·10	−0·05	−0·12	−5·77	+3·32	−0·29	+3·21	−2·69	−0·31	−0·06	−3·51
	Lohardaga	−0·61	−0·34	−0·02	−0·51	−0·64	−5·35	+4·67	−3·46	−0·47	−1·96	+0·35	−0·40	−8·74
	Naya Dumka	−0·59	−0·70	+0·67	+0·85	−0·30	−5·73	+1·50	−3·95	+7·89	−1·93	+0·15	−0·16	−2·30
	Gobindpur	−0·52	−0·67	+0·22	+2·06	−0·76	−5·56	−0·50	−5·20	+2·62	−0·72	+0·07	−0·14	+9·10
	Purulia	−0·44	−0·59	+0·66	−0·36	+1·96	−5·75	−0·28	−1·77	+4·58	−2·84	+1·16	−0·07	−3·74
	Sirguja	−0·98	+0·01	−0·75	−0·30	+0·33	−8·30	+8·79	+8·68	+3·42	−2·30	+0·95	−0·22	+9·33
	Jushpore	−0·78	−0·56	−1·19	+0·09	−0·21	−6·25	+7·36	−1·12	−3·71	−3·41	−0·41	−0·30	−10·49
	Gangpur	−0·43	−1·27	−0·84	−0·61	−0·17	−8·47	+4·07	+2·58	−2·33	−2·68	−0·69	−0·38	−11·22
	Chaibassa	−0·51	−0·78	−1·06	+0·47	+4·36	−4·54	+7·40	−6·35	+1·15	−2·65	−0·22	+0·12	−2·61
	Barreepudda	−0·16	−0·86	+1·61	+5·67	−0·92	−2·06	+6·04	−3·41	−1·84	−3·07	−0·81	+0·61	+0·80
	Keonjhar	+0·17	−0·56	−0·57	+3·39	−0·14	+0·32	+4·93	+4·44	−1·78	−1·48	−0·83	+1·29	+9·20
	Jellasore	−0·44	−1·01	+0·30	+0·80	+0·66	−4·35	+7·54	+0·73	−2·44	−4·23	−0·65	+0·50	−2·59
	Balasore	−0·56	−0·21	+1·40	+2·14	+0·67	−7·78	+5·96	−2·49	−8·17	−4·74	−1·15	+0·76	−15·17
	Bhadrak	−0·31	−1·27	+0·68	+0·80	−2·73	−2·31	+7·02	−6·25	−6·34	−3·91	−0·78	+1·13	−14·27
	Talcher	−0·18	−0·75	−1·11	+3·34	−0·12	−4·19	+9·57	−1·71	−2·97	−2·78	−1·06	+0·91	−1·05
	Narsinghpur	+0·10	−0·41	+0·33	+1·78	+3·54	−3·51	−7·78	−3·36	−6·19	−0·18	−0·25	+1·15	−14·78
	Angul	−0·18	−0·77	−0·15	+1·16	−1·39	−5·84	+6·31	−1·93	−2·59	−4·32	−1·22	+1·26	−10·66
	Dhenkanal	−0·24	−0·64	−1·33	+3·73	+1·93	−2·65	+10·92	+1·21	−4·40	−3·80	−1·15	+1·14	+4·72
	Bispara	−0·27	−0·32	−0·64	+4·65	−0·89	−7·59	−1·04	+5·65	−4·24	−2·27	−0·96	+0·75	−7·17

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Bengal—*contd.*	Kunjabangar	—0·11	—0·29	+1·07	+1·61	—0·28	—5·54	+1·91	+6·03	—3·03	—4·91	—1·11	+1·95	—2·70
	Banki (Charchika)	—0·13	—0·37	—1·25	+1·60	—0·54	—2·42	+15·54	—1·66	—4·00	—4·54	—1·42	+2·00	+2·81
	Cuttack	+0·16	—0·49	—1·23	+2·09	—1·02	—2·76	+13·73	+2·37	—5·20	—4·46	—1·36	+2·22	+4·05
	Baramba	+0·23	—0·34	—0·30	+4·44	+0·07	—4·92	+8·08	—1·15	—0·27	—3·63	—1·12	+1·67	+2·74
	False Point	—0·46	—0·90	—0·50	+0·01	—1·03	—6·32	+1·93	+1·13	—3·50	—8·56	—2·47	+1·37	—19·30
	Puri	—0·09	—0·99	—0·61	+0·07?	—2·78?	—3·60	+9·58	+5·68	+1·16	—7·65	—2·43	+2·32	+0·68?
	Darjeeling	—0·76	—1·05	+1·27	—0·81	—2·29	—1·09	+4·08	+1·22	+28·50	—0·20	+0·31	—0·20	+28·98
	Mongpoo	—0·79	—0·71	+1·07	+1·19	—2·32	—2·79	+8·30	+12·12	+34·36	—2·55	—0·04	—1·18	+47·66
	Pedong	—0·41	—0·35	+0·68	+2·52	+1·26	—4·78	—1·48	—7·86	+18·65	+1·85	+1·05	—0·51	+8·62
	Buxa	—1·10	—0·99	+4·15	+2·09	—1·25	+2·22	—5·53	+16·74	+22·87	—5·57	+1·45	—0·55	+34·53
	Jalpaiguri	—0·48	—0·39	+1·40	+0·64	—0·47	+1·90	—1·17	—5·84	+34·13	—1·47	—0·14	—0·07	+28·04
	Cooch Behar	—0·43	—0·42	+3·26	+0·87	+1·54	—4·51	+13·21	+8·21	+29·64	—1·84	—0·14	—0·08	+49·31
	Kishanganj	—0·63	—0·47	+2·32	—0·32	+3·05	—0·45	+11·76	—0·28	+5·31	—2·24	—0·05	—0·09	+17·71
	Purnea	—0·47	—0·56	+2·09	+0·09	+0·10	—1·45	—5·71	—3·10	—0·62	—1·24	—0·07	—0·10	—11·04
	Rangpore	—0·49	—0·43	+3·75	+1·87	+4·29	—8·38	+0·50	+0·78	+14·02	—2·28	—0·24	—0·08	+13·31
	Dinajpore	—0·29	—0·59	+2·41	+1·60	—0·83	—1·99	+8·51	—3·18	+7·51	—2·45	—0·16	—0·08	+10·46
	Malda	—0·68	—0·76	+0·44	+1·28	+0·33	—1·24	—0·79	—1·79	—1·34	+0·15	—0·22	—0·25	—4·87
	Bogra	—0·44	—0·99	+0·69	+0·32	+2·57	+0·49	—1·14	+6·71	—0·69	+0·91	—0·82	—0·09	+7·52
	Rampur Boalia	—0·34	—0·84	+0·41	+3·21	+2·15	+0·51	+5·09	+2·78	+8·67	—1·82	—0·19	—0·06	+19·57
	Pubna	—0·38	—1·07	+0·50	+6·39	+2·75	+7·13	—2·71	—2·22	+0·93	—2·28	—0·47	—0·07	+8·50
	Suri	—0·44	—0·91	+2·57	+3·96	—0·86	—9·13	+4·55	+1·39	+1·62	+0·63	+0·76	—0·12	+5·02
	Bankura	—0·33	—0·66	+0·24	+1·00	+3·33	—6·39	+0·75	—6·27	+0·23	—2·91	—0·06	—0·02	—11·09
	Burdwan	—0·38	—0·82	—0·10	+3·40	+0·94	—3·23	—2·73	—3·84	—1·68	—2·43	—0·55	—0·05	—11·47
	Hooghly	—0·38	—1·14	—0·42	+5·80	+1·88	—1·06	+0·50	—2·44	—1·17	—2·03	+0·91	+0·11	+0·56
	Howrah	—0·41	—1·10	—0·74	+1·85	+3·74	—7·06	+2·36	+0·81	—3·22	—2·77	—0·22	+0·27	—6·49
	Midnapore	—0·55	—0·91	—0·67	+4·44	+3·09	—5·02	+1·00	+1·05	—2·53	—3·73	+0·51	+0·65	—2·67
	Tamluk	—0·26	—1·09	—1·11	+2·72	+0·21	—6·24	+4·49	+1·32	+1·01	—3·82	—0·07	+0·72	—2·12
	Berhampore	—0·47	—0·92	+1·79	+2·75	—2·11	—4·25	+5·76	+2·59	+5·60	+0·27	—0·37	—0·10	+10·54
	Krishnagar	—0·43	—1·10	+0·71	+0·25	—0·42	—4·24	—0·86	—2·00	+0·01	—2·19	—0·74	—0·05	—11·06
	Faridpur	—0·48	—1·32	+0·97	+5·02	+1·01	+8·01	+1·27	+2·07	+1·54	—2·11	—0·82	—0·06	+15·10
	Jessore	—0·48	—1·01	+0·32	+3·99	+5·45	—6·13	+3·63	—4·60	—2·14	—1·25	—1·10	—0·03	—3·35
	Basirhat	—0·36	—1·01	+0·66	+2·13	+1·85	—3·40	—1·29	—3·12	—1·91	—2·85	+1·05	+0·09	—8·16
	Khulna	—0·45	—1·31	+0·70	+5·33	+3·28	—2·31	+3·94	—1·63	+1·80	—3·50	—0·42	—0·02	+5·41
	Barisal	—0·54	—1·06	—0·57	+8·89	+8·64	+13·61	+9·35	—0·51	+8·41	—0·85	—0·62	—0·19	+44·56
	Alipore (Obsy.)	—0·29	—1·00	+0·35	+4·57	+3·59	—5·57	+3·21	+1·32	—3·42	—1·09	—0·57	+0·35	+1·45
	Saugor Island	—0·28	—1·07	+0·14	+1·31	—0·75	—4·92	+7·21	—5·20	+0·33	—5·26	—1·30	+1·28	—8·51

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Bengal—*concld.*	Mymensingh	−0·43	−1·20	−1·12	+6·12	+4·37	+9·95	+0·35	+4·40	−2·93	−1·91	−0·76	−0·09	+16·75
	Kishorganj	−0·57	−0·94	−1·35	+7·08	+2·79	+3·18	−1·05	−3·39	−1·93	+1·86	−0·69	−0·22	+4·77
	Atia (Tangail)	−0·43	−1·05	−0·36	+4·48	+5·97	+0·23	+2·91	−0·81	+0·49	−3·48	−0·50	−0·08	+7·75
	Dacca	−0·36	−1·07	+0·23	+15·60	+3·21	+5·58	−4·68	−2·36	+2·25	−4·01	−0·83	−0·13	+13·43
	Comilla	−0·54	−0·95	−0·95	+13·80	+0·56	+2·03	−5·99	−0·31	−1·67	+0·71	−1·03	−0·20	+5·46
	Agartalla	−0·57	−1·48	−1·91	+6·38	−2·02	+8·62	−1·47	−2·73	−5·63	−0·71	−1·05	−0·35	−2·92
	Noakhali	−0·44	−1·00	−0·94	+11·03	+6·01	+1·72	+18·00	+8·26	−1·31	−3·03	−1·61	−0·14	+36·55
	Demagiri	−0·41	−1·35	−3·49	+7·47	−2·17	+6·08	−1·91	−8·44	−0·75	−2·45	−1·53	−0·64	−9·59
	Rangamatia Hills	−0·43	−1·15	−2·59	+7·01	−4·37	+9·47	+2·76	−6·97	−4·62	−1·56	−1·53	−0·48	−4·48
	Chittagong	−0·41	−1·16	−1·36	+8·77	+2·77	+6·46	+14·24	−3·53	−3·88	−0·39	−1·49	−0·58	+19·44
	Cox's Bazar	−0·48	−0·41	−0·45	+9·05	+4·97	−0·05	+11·60	−8·74	+8·51	−0·10	−1·97	−0·29	+20·64
Assam.	Sylhet	−0·19	−1·46	−3·45	+8·12	+4·31	+9·77	−3·58	+1·53	+3·37	−3·14	−1·09	−0·27	+13·92
	Silchar	−0·61	−1·93	−2·09	+8·14	−3·95	+7·23	−5·97	+1·24	−3·21	−0·28	−0·39	−0·54	−2·36
	Chera Poonjee	−0·69	−2·16	−3·34	+5·49	−24·01	+31·39	+13·70	+7·83	−7·88	−12·09	−1·49	−0·23	+6·52
	Tura	−0·54	−0·79	+1·26	+5·26	+4·91	+12·81	−0·84	+8·98	+5·93	−2·54	+0·15	−0·11	+34·48
	Shillong	−0·15	−0·81	+1·97	+2·36	−2·10	+6·71	−3·13	+8·28	−3·93	+0·53	−0·93	−0·15	+8·66
	Dhubri	−0·34	−0·55	+1·76	+1·00	+2·63	+0·36	−0·02	+11·60	+10·77	−2·05	−0·14	−0·14	+24·88
	Goalpara	−0·43	−0·61	+1·77	+7·87	−2·31	−0·86	+4·46	+4·70	+8·43	−1·93	−0·21	−0·21	+20·67
	Kulsi	−0·44	−0·37	+3·09	+5·38	+2·44	+4·05	−1·29	−0·68	+5·82	−1·97	+0·17	−0·20	+15·00
	Gauhati	−0·60	−0·90	+3·51	+6·67	−2·90	+0·81	−3·98	−0·44	−049	−1·82	−0·52	−0·24	0
	Nowgong	−0·63	−0·81	+2·20	+6·72	−5·51	−0·08	+5·06	+5·89	+7·31	−0·66	−0·43	−0·25	+18·80
	Tezpur	−0·45	−0·38	−0·03	+4·04	−2·66	+1·60	+2·27	+3·88	−1·26	−1·58	−0·69	−0·50	+4·24
	Chardner	+0·52	−0·40	−0·28	+2·11	−3·17	+9·39	−1·12	+2·63	−4·04	−2·24	+1·08	−0·81	+3·67
	Sibsagar	−0·71	−0·84	−1·46	+2·70	−4·87	−5·96	−1·65	+4·18	+2·95	−1·16	−0·62	−0·59	+1·97
	Dibrugarh	−0·24	−0·97	−3·30	+1·88	−2·16	−1·60	+8·77	+1·48	+15·85	−3·25	−0·71	−0·81	+14·94
	Kohima	−0·58	−1·15	−0·56	+3·42	−2·15	−4·58	−1·77	+2·34	−2·66	+1·54	−0·31	−0·38	−6·85
Central Provinces.	Saugor	−0·27	−0·23	−0·22	−0·10	−0·49	−6·68	−0·78	−6·71	+1·18	−0·85	+4·05	−0·53	−11·63
	Damoh	−0·20	−0·26	−0·20	+0·40	−0·16	−5·31	+4·86	−8·43	+4·93	+0·03	+4·59	−0·47	−0·22
	Jubbulpore	−0·45	−0·33	−0·48	0	−0·39	−7·76	−0·71	−7·46	+0·65	−1·45	+0·39	−0·25	−18·24
	Narsinghpur	−0·16	−0·24	−0·27	−0·18	−0·32	−6·48	−3·53	−3·04	+5·87	+1·15	+0·14	−0·26	−7·32
	Hoshangabad	−0·13	−0·01	−0·21	+0·07	−0·01	−5·40	−6·26	−2·87	−2·70	+0·60	+3·18	+1·15	−12·59
	Khandwa	+0·16	−0·19	−0·09	+0·03	+0·19	−5·19	+7·27	−1·74	−1·15	+0·37	+2·40	−0·10	+1·96
	Badnur (Betul)	−0·39	−0·30	−0·56	−0·29	−0·94	−5·11	+0·71	−0·43	−2·94	+1·16	+0·92	+0·26	−7·26
	Pachmarhi	−0·12	−0·36	−0·32	−0·16	−0·42	−8·72	−9·30	−3·90	−5·87	+0·63	+1·24	+1·66	−25·58
	Chhindwara	−0·23	−0·35	−0·44	−0·20	−0·47	−6·72	+0·36	−2·73	−3·80	−0·98	+0·02	+0·15	−15·39
	Seoni	−0·29	−0·88	−0·51	−0·31	−0·68	−7·79	−1·59	−4·61	−3·88	−1·08	−00·8	+0·28	−21·49

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
CENTRAL PROVINCES —*concld.*	Balaghat	−0·40	−0·62	−0·38	+0·19	−0·72	−10·30	−7·00	−10·56	−2·52	−1·69	−0·44	+0·33	−34·11
	Mandla	−0·15	−0·47	−0·73	−0·32	−0·46	−6·76	−6·37	−3·92	+14·65	−1·12	−0·20	+0·03	−5·82
	Bilaspur	−0·50	−0·16	−0·73	+0·35	−0·50	−7·06	+1·79	−2·01	+1·58	+1·75	−0·54	−0·16	−9·72
	Sarangarh	−0·21	−0·52	−0·96	+1·21	−0·68	−7·26	−1·37	−2·45	−1·75	−2·93	−0·53	+0·33	−16·85
	Raigarh	−0·22	−0·42	−0·55	+0·76	−0·23	−6·54	+12·20	−8·31	−3·82	−2·37	−0·65	+0·25	−9·90
	Sambalpur	−0·53	−0·57	−0·85	+0·77	−1·31	−10·79	+5·17	+3·03	−4·73	−1·11	−0·42	+0·69	−10·65
	Raipur	−0·30	−0·33	−0·59	+0·16	−0·56	−8·65	−6·02	−3·21	−0·02	−1·90	−0·57	−0·16	−22·15
	Dhamtari	−0·19	−0·40	−0·44	+0·06	−1·13	−8·63	−3·97	+0·58	−4·82	−1·52	−0·36	+0·06	−20·76
	Bhandara	−0·71	−0·62	−0·58	−0·53	−0·82	−6·87	−6·84	−3·64	−5·23	−1·16	−0·64	+0·15	−27·49
	Nagpur	−0·58	−0·42	−0·57	−0·42	−0·60	−6·66	−3·63	−0·36	−4·02	−1·12	−0·05	+1·05	−17·38
	Arvi	−0·54	−0·22	−0·44	−0·17	−0·55	−2·13	−2·29	+0·17	−3·82	−0·69	−0·12	+0·24	−10·56
	Wardha	−0·34	−0·38	−0·41	+0·01	−0·58	−4·59	+1·32	+0·44	−1·99	−1·81	−0·07	+0·27	−8·13
	Brahmapuri	−0·39	−0·35	−0·84	−0·44	−0·59	−7·07	−3·54	−0·65	−1·24	−1·90	−0·32	−0·26	−17·59
	Chanda	−0·25	−0·70	−1·24	−0·61	−1·36	−4·72	−5·37	−8·36	+0·83	−1·94	−0·38	−0·04	−24·04
	Sironcha	−0·27	−0·38	−0·60	+0·05	−0·21	−6·52	−3·52	−4·42	+0·33	−2·23	−0·65	+1·06	−17·37
	Baster (Jagadalpore).	−0·11	−0·24	−0·81	+3·05	+1·96	−8·18	+3·77	+2·04	+1·05	−2·01	−0·69	+0·25	+0·08
BERAR	Chikalda	−0·25	−0·25	−0·45	+0·24	−0·64	−7·13	−1·35	−9·36	−5·00	+1·57	+1·15	+0·86	−20·59
	Ellichpur	−0·14	−0·23	−0·36	+0·35	−0·36	−3·38	−1·42	−1·44	−1·75	−0·15	+0·45	+0·59	−7·82
	Amraoti	−0·46	−0·22	−0·34	−0·12	−0·28	−5·53	+3·33	+0·22	−3·05	+1·59	+0·18	+0·14	−4·54
	Akola	−0·29	−0·18	−0·43	−0·09	−0·31	−4·65	+2·68	+1·57	−2·84	−0·64	−0·17	+0·53	−3·82
	Buldana	−0·20	−0·22	−0·25	+0·06	−0·33	−3·92	−1·17	−1·11	−4·84	+1·56	+1·69	+3·04	−5·69
	Basim	−0·30	−0·21	−0·27	−0·34	−0·48	−5·65	−4·38	+0·28	−2·91	+0·51	+1·55	+2·03	−10·15
	Yeotmal	−0·27	−0·24	−0·50	−0·27	−0·71	−4·37	+2·78	+3·17	−3·76	−1·28	+0·81	+1·14	−3·50
	Wun	−0·29	−0·23	−0·86	−0·17	−0·41	−4·84	−3·51	−4·15	+5·01	+0·31	−0·09	+0·18	−9·05
BOMBAY	Dhulia	+0·36	−0·06	−0·04	−0·07	−0·27	−0·72	−0·19	+0·16	+0·02	+0·16	+0·11	−0·10	−0·64
	Nasik	+0·15	−0·06	−0·03	−0·11	−0·61	−3·79	+3·24	−1·46	+2·76	−2·22	+0·45	+2·70	+1·02
	Igatpuri	−0·14	−0·09	−0·03	+0·13	−0·75	−14·84	−3·52	−3·55	+5·89	−2·68	+1·26	+1·54	−16·48
	Malegaon	+0·55	−0·11	−0·04	−0·19	−0·67	−1·60	+1·09	−0·83	−1·03	−1·11	+1·97	+0·59	−1·38
	Ahmednagar	−0·10	−0·12	−0·15	−0·40	−0·91	−1·65	+0·67	−1·92	+10·26	−1·68	+0·12	−1·53	+3·65
	Poona	−0·08	−0·05	−0·13	−0·38	−1·36	−1·34	+0·08	−0·14	−1·76	−0·48	−0·34	+1·82	−4·36
	Lonavla	−0·04	−0·04	−0·06	−0·23	−0·65	−19·13	−8·23	−7·82	+9·06	−0·98	+2·08	+2·63	−23·41
	Satara	−0·22	−0·10	−0·10	−0·93	+0·65	−2·16	+1·62	−4·55	−1·20	−0·22	0	+3·26	−3·93
	Mahabaleshvar	−0·31	−0·05	−0·30	−1·26	−0·16	−21·87	−7·14	−24·22	+5·49	+1·29	+1·91	+3·31	−43·31
	Sholapur	−0·06	−0·08	−0·29	−0·23	−0·62	+0·43	−3·62	−3·30	+6·05	−0·52	+0·07	+3·84	+1·67
	Kolhapur	−0·04	−0·09	−0·14	−0·76	−1·50	+0·05	−0·04	−3·15	−1·54	+1·38	−0·05	+3·28	−2·61
	Belgaum	−0·06	−0·03	−0·30	−1·73	−0·78	−1·19	+0·58	−5·81	−0·19	+4·00	+1·21	+7·36	+3·06

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inch.	Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
	Gokak	−0·07	−0·01	−0·41	−0·17	+3·25	+0·01	+0·36	−1·33	−1·76	+3·77	+1·69	+3·57	+8·90
	Dharwar	−0·11	−0·03	−0·24	−0·47	+1·44	−0·45	+1·00	−3·89	−2·22	+0·14	+0·97	+9·35	+5·49
	Hubli	−0·09	−0·01	−0·32	−1·69	+2·32	+0·03	−0·22	−2·82	−1·76	−1·94	+1·20	+5·19	−0·11
	Nargund	−0·17	−0·09	−0·28	+1·80	−0·06	+0·08	−1·08	−2·23	−1·81	−1·21	−0·31	+2·67	−2·69
	Mundargi	−0·19	0	−0·13	−0·50	+2·14	+1·79	−0·86	−0·93	−1·12	+5·31	−0·63	+3·81	+8·66
	Kalghatgi	−0·12	0	−0·34	+0·03	−0·84	+0·56	+1·93	−2·08	+0·69	+6·59	−0·03	+4·09	+9·48
	Bijapore	−0·05	−0·05	+0·11	−0·81	+0·63	+1·04	−1·89	−2·01	−0·95	−0·93	−1·05	+2·76	−3·20
	Honavar	−0·16	−0·01	−0·10	−0·60	−2·00	−8·93	+18·65	−2·50	+20·15	+1·78	+0·23	+5·56	+32·07
	Karwar	−0·12	−0·01	−0·04	−0·44	−2·89	+3·26	+21·78	−4·59	+12·84	+0·75	−0·60	+3·10	+32·96
	Goa	−0·19	0	−0·02	−0·33	−1·24	+4·10	+10·51	−6·46	+18·65	−2·41	+3·72	+2·64	+28·87
	Vengurla	−0·19	−0·02	−0·05	−0·28	−0·70	−1·38	+12·28	−9·29	+9·59	−0·54	+2·30	+4·28	+15·80
	Ratnagiri	−0·60	−0·02	−0·05	−0·15	−1·26	−10·28	−1·74	−11·20	+14·02	+0·66	+0·59	+1·83	−7·89
	Colaba (Obsy.)	−0·12	−0·02	−0·01	−0·05	−0·55	−10·79	−10·02	+3·52	+16·70	−0·98	−0·46	+0·76	−2·02
	Byculla (J. J. Hospital.)	−0·14	−0·03	−0·01	−0·03	−0·39	−10·75	−15·01	+0·56	+15·29	−0·31	−0·19	+1·35	−9·66
Bombay—*concld.*	Thana	−0·17	−0·06	−0·06	−0·01	−0·36	−17·43	−15·63	−0·33	+14·01	+0·60	+0·85	+0·63	−17·96
	Matheran	−0·08	−0·03	−0·01	−0·07	−0·70	−28·10	−25·20	−6·71	+12·75	−0·20	−0·11	+1·64	−46·82
	Surat	+0·47	−0·07	0	−0·01	−0·15	−7·87	+9·79	+3·33	+8·00	−1·29	−0·15	+0·81	+12·86
	Broach	+0·23	−0·06	−0·01	0	−0·12	−6·12	+1·38	+7·24	+7·91	−1·36	−0·16	+0·43	+9·36
	Kaira	−0·03	−0·15	−0·02	−0·05	−0·30	−3·96	−9·09	+2·75	+10·33	−0·50	−1·31	+0·09	−1·24
	Bariya	+0·25	−0·25	0	−0·03	−0·27	−4·98	−10·16	+1·53	+3·08	−0·91	−0·17	−0·11	−12·02
	Godhra	+0·30	−0·14	−0·01	−0·02	−0·40	−5·31	−8·28	+0·20	+9·15	−0·90	−0·15	+0·56	−5·00
	Dohad	+0·95	−0·20	−0·01	−0·01	−0·46	−3·66	+0·08	+1·42	+4·71	−0·60	−0·14	+0·67	+2·75
	Ahmedabad	−0·02	−0·10	−0·01	−0·03	−0·11	−3·87	−7·94	+1·43	+7·88	−0·55	−0·19	+0·05	−3·46
	Idar	−0·04	−0·13	−0·03	−0·02	−0·24	−3·95	−10·70	+0·89	+3·03	−0·26	−0·22	−0·07	−11·74
	Deesa	−0·14	−0·14	−0·08	−0·05	−0·17	−1·61	−8·39	−2·80	+3·30	−0·58	−0·14	−0·05	−10·85
	Wadhwan	−0·05	−0·07	−0·04	+0·14	−0·19	−2·55	−6·34	+6·68	+4·04	−0·55	−0·42	+0·10	+0·75
	Palanpur	−0·10	−0·18	−0·06	+0·10	−0·49	−2·40	−8·66	−0·42	+3·13	−0·45	−0·10	−0·11	−9·74
	Rajkot	−0·05	−0·10	−0·01	−0·01	−0·31	−5·14	−9·98	+3·70	+9·86	−0·30	−0·33	+0·02	−2·65
	Songad	−0·03	−0·08	−0·05	−0·02	−0·18	−3·20	−3·83	+5·78	+6·47	−1·51	−0·21	+0·72	+3·86
	Jetalsar	−0·05	−0·09	−0·04	−0·05	−0·20	−5·19	−6·85	+1·33	+2·40	−1·18	−0·49	−0·04	−10·45
	Aurangabad (Cantt.)	+0·04	−0·10	−0·07	+0·99	−0·75	−4·62	−3·14	−0·39	+1·26	+2·23	+1·38	+2·27	−0·90
	Hingoli	−0·36	−0·26	−0·26	−0·52	−0·68	−3·88	−4·65	+4·55	−1·88	−0·28	+1·82	+1·35	−5·05
Hyder-abad.	Parbhani	−0·06	−0·05	−0·22	−0·35	−0·52	+0·34	+0·61	+0·08	+4·78	+0·71	−0·62	+0·62	+5·32
	Nandair(Nanded)	−0·11	−0·23	−0·46	−0·52	−0·64	−3·51	−1·11	−4·22	−3·38	−0·63	+1·18	+1·36	−12·27
	Bheer (Bid.)	−0·10	−0·05	−0·21	−0·20	−0·59	−4·44	−4·04	−2·87	+2·98	−0·79	+4·40	+1·14	−4·77
	Mominabad	−0·18	−0·15	−0·39	−0·47	−0·56	−0·98	−3·65	−1·74	+1·34	−0·02	+0·13	+0·68	−5·99

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
		Inch.	Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
	Indur (Indur)	—0·05	—0·13	—0·48	—0·30	—0·30	—2·94	—2·14	+3·41	—2·52	—0·94	—0·62	+0·09	—6·92
	Yelgandal) Karimnagar.	—0·21	—0·21	—0·20	—0·08	+0·50	+0·71	—0·85	+0·71	—3·87	—2·04	+0·74	+1·03	—3·77
	(Medak) Kandi.	—0·05	—0·18	—0·47	—0·09	—0·46	—0·34	—5·24	+1·05	+4·91	+1·28	+1·78	+0·05	+2·24
	(Ibrahimpatan) Shumsabad.	—0·06	—0·17	—0·49	+1·75	—0·39	—1·79	—4·57	+1·89	+0·59	+1·99	+1·62	+0·03	+0·40
	Sundanully	—0·02	—0·35	—0·49	+0·68	+0·12	+1·90	—4·13	+0·14	—5·36	+1·97	—0·16	+0·17	—5·53
	(Naldurg) Dharaseo.	—0·02	—0·05	—0·20	+0·60	—1·02	—4·40	—3·11	—4·57	+3·72	—0·82	—0·35	+2·33	—7·89
	Bidar (Bidar)	—0·01	—0·18	—0·50	—0·47	—0·60	—3·23	—7·49	—1·85	—0·69	+0·96	—0·73	+0·53	—14·26
	Gulbarga (Gulbarga.	—0·07	—0·20	—0·29	+0·09	—0·91	—0·65	—3·98	—1·33	+4·42	—0·10	+0·93	+0·35	—1·73
HYDERABAD—*concld.*	Bolaram	—0·08	—0·19	—0·42	—0·39	—0·68	—2·63	—5·26	—1·96	+5·19	—0·14	—0·27	—0·20	—7·03
	Secunderabad	—0·21	—0·23	—0·72	—0·37	—0·40	—2·78	—4·50	—1·37	+5·54	+0·52	+0·59	+0·55	—2·88
	Hyderabad(Residency).	—0·09	—0·09	—0·50	—0·11	—0·53	—2·16	—4·02	—1·65	+2·99	0	—0·65	+0·44	—6·77
	Zanawada (Hyderabad).	—0·06	—0·53	—0·61	—0·34	—0·85	+0·74	—5·02	+2·11	+1·79	+0·51	—0·68	+0·14	—2·80
	(Nalgunda) Bhongir.	—0·13	—0·08	—0·41	+2·89	—0·82	+0·01	—2·40	—0·78	—0·26	—0·07	+1·41	—0·08	—0·72
	Khamam (Hanumkonda) (Warangal).	—0·23	—0·22	—0·78	+0·26	—0·05	—2·62	—3·50	—2·88	—1·05	—0·56	+0·56	+0·08	—10·96
	Sirpur Tandur	—0·04	—0·41	—0·37	—0·27	—0·46	—5·34	—3·55	—4·15	+0·81	—1·64	—0·09	—0·20	—15·71
	(Mahbubnagar) Palmoor.	—0·02	—0·10	—0·41	+0·09	—0·56	+3·09	—5·41	+1·96	—4·18	—0·63	+1·45	+0·40	—4·32
	Raichur	—0·02	—0·07	—0·30	+0·60	—0·82	—1·02	—4·20	—2·04	+7·45	—1·67	—0·08	—0·02	—2·49
	Raichur (Cantt.)	0	—0·15	+0·01	—0·14	—1·41	—0·54	—3·89	—1·99	+3·23	+0·08	+0·11	0	—4·69
	Rambha	—0·18	—0·80	—0·93	+1·68	—0·54	—4·10	+6·78	+11·69	—4·15	—8·81	—2·21	+1·10	—0·47
	Gopalpur	+0·28	—0·47	—0·62	+0·29	—1·74	—4·48	+4·66	+1·34	—2·11	—8·44	—3·97	+0·15	—15·11
	Aska	+0·10	—0·61	—1·35	+3·09	—1·54	—0·91	+4·67	+7·36	—5·08	—5·48	—1·48	+0·33	—0·90
	Vizianagram	—0·12	—0·46	—0·96	—0·48	—0·64	—0·71	—0·09	+3·63	+3·05	—4·37	—1·27	+0·07	—3·25
	Bimlipatam	—0·04	—0·46	—0·22	—0·12	—0·95	—2·41	—0·31	+1·27	+5·26	—0·62	—1·33	+0·05	+0·12
	Rayaghadda	—0·02	—0·40	—0·49	+3·28	—0·92	—3·35	—2·60	+3·03	+1·34	—2·50	—0·78	+0·50	—2·91
	Nŏurangapur	—0·11	—0·29	—0·45	+3·85	—0·91	—5·27	+1·33	—3·16	+3·14	—2·12	+1·50	—0·79	—1·70
	Gunipore	+0·03	—0·53	—0·58	+4·66	—0·34	—1·88	—2·37	—1·12	—1·57	—3·87	—1·11	+1·38	—7·30
MADRAS.	Jeypore	—0·06	—0·28	—0·71	+7·79	—1·51	—8·76	—1·11	—2·10	+3·65	—2·60	+0·33	+0·46	—4·80
	Koraput	—0·05	—0·23	—0·76	+3·34	—0·62	—7·44	—0·34	—3·44	+0·99	—2·51	+0·30	+0·61	—10·13
	Malkanagiri	—0·01	—0·12	—0·37	+2·08	—1·37	—6·73	—0·80	—1·90	+8·12	—2·23	+1·63	+0·36	—1·32
	Narsapatnam	—0·23	—0·45	+1·14	+1·44	+0·60	—2·99	+1·68	+2·44	—4·45	+1·33	—2·03	—0·72	—2·24
	Waltair	—0·26	—0·25	—0·35	—0·56	—1·97	—1·85	—1·64	+1·48	—0·40	—1·09	—3·44	+0·08	—10·25
	Cocanada	—0·17	—0·33	—0·32	—0·51	—0·88	—3·19	+3·06	+0·12	+0·28	+8·89	—0·46	+0·23	+6·72
	Rajahmundry	—0·14	—0·25	—0·32	—0·91	—2·35	—3·75	+6·36	+5·97	+1·50	+4·54	—0·62	—0·15	+9·85
	Ellore	—0·16	—0·17	—0·37	—0·16	—1·37	—2·97	+2·71	—1·18	+4·75	+4·82	—1·48	+0·02	+4·44
	Masulipatam	—0·17	—0·16	—0·26	—0·22	—1·18	—2·08	+0·34	+1·18	+0·64	+11·70	—0·14	+3·08	+11·45
	Guntur	—0·24	—0·19	—0·64	—0·53	—0·56	—0·76	—1·48	—0·31	+3·35	+3·75	—0·33	+2·57	+4·81

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Iches	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Madras—*contd.*	Vinukonda	−0·19	−0·09	+2·17	+0·66	−1·14	−1·33	−0·46	+0·44	+0·21	+1·62	−1·53	+0·75	+1·11
	Ongole	−0·18	−0·09	−0·21	+1·29	−0·95	−0·55	−1·62	+5·23	−0·04	+2·61	+0·56	+1·59	+7·64
	Nellore	−0·46	−0·09	−0·18	−0·26	−1·01	+0·29	+1·65	+1·18	+4·60	+4·63	+6·31	+9·41	+26·07
	Udayagiri	+0·01	−0·21	−0·21	−0·13	−0·84	−0·12	−1·03	+1·05	−0·98	+11·04	−3·67	+1·33	+6·21
	Tada	−0·52	−0·48	−0·18	−0·27	−1·59	+0·26	−0·12	−0·22	+3·08	+6·57	+5·97	+0·48	+12·98
	Kurnool	−0·05	−0·03	−0·43	−0·23	−1·06	−1·39	−4·40	−1·90	+0·61	−0·46	+0·44	−0·11	−8·99
	Nandyal	−0·07	−0·04	−0·16	+0·64	−1·00	−0·02	−4·57	−2·95	+4·34	−0·44	−0·83	+0·24	−4·86
	Bellary	−0·10	−0·03	−0·42	−0·28	+2·32	+2·50	−0·93	−1·05	−0·63	+1·29	+1·36	−0·12	+3·91
	Gooty	−0·03	−0·05	−0·08	+0·20	+1·31	+0·26	−2·19	−2·69	+7·40	+0·02	+0·27	−0·11	+4·31
	Adoni	−0·04	0	−0·26	−0·34	+1·78	−1·32	−3·06	+1·70	+6·03	+1·29	−0·60	−0·02	+5·16
	Dharmavaram	+0·34	−0·10	−0·16	+0·36	−0·67	−1·40	−0·11	+2·33	+1·61	+2·87	−1·74	−0·13	+3·20
	Cuddapah	−0·15	−0·04	−0·17	−0·36	−1·17	+2·70	−2·05	+0·43	−0·29	+0·51	−2·63	+0·70	−2·48
	Madanapalle	+0·51	−0·13	−0·30	+0·43	−0·93	−1·35	+3·84	+1·61	+2·64	+2·96	−1·15	+0·11	+8·24
	Chittoor	+0·16	−0·21	−0·32	−0·03	−0·83	−1·00	−1·20	+5·09	+3·34	+4·76	−0·86	−0·47	+8·43
	Vellore	+0·73	+0·19	−0·15	−0·03	−1·37	+0·01	−1·56	+4·18	+5·35	+1·48	−2·45	+0·75	+7·23
	Chandragiri	+0·15	−0·22	−0·11	−0·17	−1·36	+2·59	−2·08	+2·97	+1·67	+1·68	−1·07	−0·61	+3·44
	Arcot	+0·98	−0·44	−0·36	−0·59	−0·60	−0·32	+0·76	+2·12	+5·99	+5·59	−0·98	−0·20	+11·95
	Madras	+0·45	−0·23	−0·37	−0·63	−1·79	−1·67	+0·44	−1·40	−0·19	+9·74	−2·77	+3·93	+5·51
	Palmaner	+0·70	−0·10	−0·38	+0·48	+0·55	−1·27	−0·96	+0·75	−0·39	+2·14	−0·42	−0·60	+0·50
	Saidapet	+0·06	−0·41	−0·26	−0·55	−1·47	−2·02	+1·28	+0·47	−0·63	+14·31	−2·29	+4·70	+13·19
	Chingleput	−0·03	−0·32	−0·13	−0·44	+0·75	−1·25	−0·17	−0·52	+1·60	+10·04	+3·02	+2·51	+15·06
	Conjeeveram	−0·02	−0·19	−0·11	−0·70	−1·48	−2·24	−0·25	+2·01	+2·08	+3·31	−1·03	+4·37	+5·75
	Tindivanam	−0·19	−0·34	−0·25	−0·85	−1·63	−0·60	−1·03	−1·49	−3·85	−0·04	−0·51	+5·15	−5·63
	Cuddalore	+3·08	+0·49	+0·27	−0·91	−0·46	−1·33	+2·42	−1·40	−1·31	+8·66	+3·55	+10·00	+23·06
	Vridhachalam	+1·37	+0·41	−0·27	−0·80	+1·70	−0·83	+0·84	−3·76	−2·96	+1·12	+0·78	+12·95	+10·55
	Udayarpalaiyam	+2·26	+5·52	−0·27	−1·06	+0·73	−0·65	−0·87	+1·16	+1·58	+3·17	+2·20	+7·36	+21·13
	Salem	+0·24	+0·18	−0·15	−0·19	+3·99	+2·24	+0·42	+1·26	−0·79	+2·25	−0·88	+2·38	+10·95
	Atur	+0·70	−0·32	+0·79	+1·86	−0·34	−1·65	−0·64	+2·63	−0·95	+3·92	−1·73	+2·49	+6·76
	Shevaroy Hills	+1·17	−0·16	−0·66	−0·50	+5·42	−0·25	−1·03	+4·29	−2·53	+0·89	−0·55	+4·53	+10·62
	Kumbakonam	+3·54	+0·46	−0·45	−0·51	+1·84	−0·83	−2·17	+1·17	+3·32	−1·54	+1·80	+2·99	+9·62
	Tirupatur	+6·73	−0·21	+0·21	−1·01	+0·90	−2·75	−0·69	−0·60	−2·44	+2·82	+2·78	+1·81	+7·55
	Hosur	−0·08	−0·31	+0·01	−1·53	+1·17	−0·96	−1·13	+0·86	−1·27	+2·79	−1·48	+1·94	+0·01
	Tranqueber	+4·37	−0·18	+0·39	−1·02	−0·89	−1·06	−1·46	−0·80	+2·06	+5·89	−0·16	+3·89	+11·03
	Negapatam	+7·56	−0·60	−0·20	−1·02	−1·71	+0·26	−1·09	+0·58	−1·54	+2·22	+6·63	+4·08	+15·17
	Tanjore	+4·53	+1·65	+0·41	−1·13	+0·45	−0·19	−0·45	+0·74	+3·72	−1·98	+1·82	+3·55	+13·12
	Patukota	+3·42	+2·67	+0·69	−1·86	−1·73	+1·42	−1·55	+2·40	−2·35	+3·41	−0·21	+2·69	+2·98

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Madras—*contd.*	Trichinopoly	+2·09	+0·72	+0·18	−2·02	−1·48	+1·24	−1·83	+0·07	−1·57	+2·42	+0·28	+3·83	+3·93
	Karur	+0·79	−0·08	+0·79	−0·59	+1·01	−1·03	−0·99	+0·81	−0·92	+2·22	−0·06	+0·86	+2·81
	Coimbatore	+2·14	−0·31	−0·04	−1·17	+3·47	−1·02	+3·68	−0·38	−1·03	+7·25	+0·57	+2·08	+15·24
	Kollegal	+0·08	−0·12	+0·83	−1·12	+0·73	−1·63	−0·34	−3·05	−3·19	+0·57	−2·28	+2·01	−7·51
	Dindigul	+4·30	−0·30	+2·58	−1·98	−0·47	+1·64	−1·17	+0·33	−0·77	+5·22	+0·08	+1·56	+11·02
	Madura (Obsy.)	+2·45	−0·45	+2·68	−1·95	−0·69	+4·15	−1·91	+2·67	−0·77	+2·39	+0·82	+1·74	+11·13
	Vattanum	+5·77	−0·13	+1·01	−2·37	−0·06	−0·11	−0·75	+0·56	−1·95	+13·73	+5·14	+1·81	+22·65
	Periyakulam	+2·00	−0·86	−0·33	−1·35	+0·88	+0·43	+0·62	−0·41	−1·67	+1·37	+2·32	+5·32	+8·32
	Tinnevelly	+6·73	−0·17	+0·64	−1·84	+1·52	+0·67	−0·16	−0·50	−0·43	+3·67	+1·29	+3·84	+15·26
	Tuticorin	+6·04	−0·61	+4·23	−1·70	−0·89	+0·17	−0·16	−0·05	−0·06	+11·63	+1·54	+3·42	+23·56
	Satur	+2·74	−0·72	+0·46	−1·97	−0·11	0	+0·83	−1·09	−0·98	+6·03	+9·47	+2·02	+16·68
	Cochin	−0·79	−0·63	+0·03	−3·25	−5·57	−12·67	+22·51	−3·06	+6·89	+1·96	−0·52	+0·88	+4·78
	Palghat	−0·03	−0·32	+3·53	−1·56	−1·45	−13·86	+8·51	−2·35	+7·03	+6·06	+1·09	+9·06	+16·00
	Wellington	+3·61	−1·33	−0·89	+2·53	+0·20	+2·69	+2·48	+0·75	+1·48	+7·03	+3·54	+11·80	+28·51
	Manantoddy	−0·10	+0·59	+0·79	+1·62	+0·53	−13·60	+26·46	−10·00	+9·96	+2·78	+0·43	+3·27	+22·73
	Calicut	+0·51	−0·16	+1·17	−2·65	−3·16	−19·28	+22·72	−5·11	+13·99	+3·92	+4·39	+3·36	+19·70
	Tellicherry	+0·47	−0·02	−0·32	−2·65	−6·02	−24·84	+7·02	−3·41	+16·58	+4·99	−1·51	+0·09	−9·65
	Cannanore	−0·26	−0·16	−0·11	−2·38	−2·93	−18·21	+21·39	−1·47	+12·41	+2·16	−1·57	+3·67	+12·54
	Mangalore	−0·13	−0·07	+0·25	−1·85	−3·36	−9·01	+24·93	−5·71	+16·59	−4·14	+1·50	+1·74	+20·74
Mysore and Coorg.	Bangalore	−0·03	−0·22	−0·05	+1·10	−0·25	−0·68	−2·87	−2·87	+1·30	+1·92	−2·17	+0·61	−4·21
	Mysore	−0·07	−0·17	−0·64	+1·21	+1·99	−0·75	+0·66	−2·18	−1·39	+2·15	−1·35	+1·42	+0·88
	Shimoga	−0·06	−0·11	−0·43	+2·38	−2·45	+0·08	+3·16	−0·02	−0·52	+3·70	−0·19	+5·36	+10·99
	Mercara	−0·18	+0·19	+0·38	+1·25	+0·41	−16·96	+9·58	−14·82	+6·17	−0·79	−0·20	+8·66	−8·31
	Kolar	+0·44	−0·04	−0·41	−0·20	0	−2·34	−1·54	−0·94	−0·23	+2·17	−2·45	+0·56	−4·98
	Tumkur	−0·14	−0·19	−0·33	+0·47	−1·32	−2·53	−2·13	−0·72	+1·16	+6·73	+0·16	+0·04	+1·20
	Chitaldroog	−0·15	−0·03	−0·25	+0·05	−1·38	−1·33	−0·89	−1·98	−1·76	+10·37	+0·34	+2·46	+5·45
	Chikmagalur	−0·18	−0·20	−0·63	−1·67	+0·54	+0·44	−0·71	−2·58	−2·04	+2·64	−0·39	+6·41	+1·63
	Hassan	−0·61	−0·09	−0·44	−0·22	+1·53	−2·05	+2·36	−1·51	+0·30	+6·26	+1·29	+4·32	+11·14
Ceylon.	Trincomalee	+5·31	+1·30	+1·78	−1·95	−2·01	+0·68	−1·82	−2·58	−2·13	+2.83	+13·04	+0·11	+14·56
	Colombo	−1·29	+2·68	+2·10	−1·42	−0·21	+1·49	+0·17	−1·05	+3·20	+17·11	+7·33	+0·17	+30·28
	Ratnapura	−2·65	−2·12	+0·46	+10·34	−3·93	−5·63	+5·40	+1.65	+10·19	+4·11	−1·93	+0·30	+16·19
	Puttalam	+7·09	+0·08	+1·18	−0·81	+0·84	−1·56	+0·23	+0·61	−0·58	+3·56	+1·62	+1·55	+13·81
	Anuradhapur	+4·87	+2·08	+0·02	−1·84	−1·40	+0·40	−1·07	−1·27	+3·16	+12·98	+2·12	+2·83	+22·88
	Manaar	+4·93	+0·72	+1·69	−1·50	−1·32	+2·83	−0·23	−0·48	−1·04	+5·97	+6·20	−1·49	+16·28
	Jaffna	+5·61	+3·20	+1·66	−1·91	−1·70	+3·19	−0·75	−0·66	−2·60	+4·88	+6·13	−3·77	+13·28
	Batticoloa	+2·58	−0·99	+0·54	−1·77	−1·38	0	+0·05	−1·46	−0.76	+1·32	+9·61	−4·07	+3·67
	Hambantota	+1·79	+0·01	−0·55	+1·07	−3·21	−1·18	−0·34	−0·59	+6·06	+4·21	+6·07	−0·33	+13·01

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—contd.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Ceylon—*concld.*	Galle	+1·66	+0·62	−2·57	−4·38	+4·52	+5·92	+0·45	−2·09	+7·47	+4·93	−2·94	+3·14	+16·73
	Kandy	−1·38	−0·11	+3·54	+7·99	−2·51	−6·31	+3·75	−4·09	+0·66	+9·11	+2·70	−0·59	+12·76
	Nuwara Eliya	+0·65	+0·09	−1·20	−0·21	−4·16	−9·06	+5·72	−2·61	+2·40	+3·60	+4·47	−2·55	−2·86
	Hakgala	+0·54	+1·91	−3·15	+1·23	−3·18	−3·63	+4·22	+0·24	+1·50	+9·18	+9·03	−7·26	+10·63
	Badulla	−2·12	+0·91	−1·41	−1·60	−1·99	+0·92	−0·85	+1·04	+0·56	+2·83	+3·64	−4·67	−2·74
Burma.	Akyab	−0·12	−0·17	−0·53	+2·41	+7·73	−19·09	+30·52	−18·36	+1·18	−6·48	−3·27	−0·44	−6·62
	Kyaukpyu	−0·11	−0·04	−0·25	−0·58	+0·91	−1·08	+11·39	−18·85	−0·65	+0·96	−3·42	−0·49	−12·21
	Sandoway	−0·08	−0·07	−0·10	−1·07	+4·89	−4·27	+23·27	−19·67	−2·47	−3·23	−1·21	+0·06	−3·95
	Rangoon	−0·11	−0·23	−0·16	?	?	?	+2·93	+0·53	−0·54	−3·12	−2·52	+1·16	?
	Bassein	−0·17	−0·20	−0·05	−0·57	+10·28	−6·73	+4·65	−0·22	−2·38	−2·88	−1·01	+0·11	+0·83
	Diamond Island	−0·23	+0·20	−0·05	−0·38	+3·19	−4·51	−7·47	−3·06	+4·31	−3·34	−4·32	+0·89	−15·77
	Henzada	−0·07	+0·23	−0·04	−0·85	+9·66	−0·80	+12·65	−5·50	+1·48	−3·00	−1·56	+0·10	+12·30
	Myanaung	−0·05	−0·02	−0·01	−0·96	+3·24	+0·33	+4·39	+0·94	+1·18	−2·08	−1·73	+0·39	+5·62
	Prome	−0·02	−0·01	−0·02	−0·73	+0·44	−1·54	+2·72	−5·55	+0·71	−3·25	−1·71	+0·73	−8·63
	Thayetmyo	−0·02	−0·04	−0·06	+0·19	−1·73	−2·22	+2·85	−1·02	−1·23	−0·85	−1·60	+0·08	−5·65
	Mandalay	−0·06	−0·08	−0·21	−0·61	−0·41	−3·31	+1·57	+0·23	+0·56	−0·17	−1·39	−0·23	−4·11
	Shwebo	−0·08	+0·25	−0·24	+0·44	+1·01	+1·01	−0·88	+0·11	+3·90	−1·32	−0·84	−0·15	+3·21
	Ye-u	−0·08	+0·13	−0·37	−0·17	+2·62	+3·72	−0·08	−4·47	+0·10	−2·30	−0·43	−0·24	−1·57
	Minbu	−0·04	+0·07	−0·02	−0·52	−2·54	−1·59	+0·19	−0·30	+0·38	−0·01	−1·02	−0·29	−5·69
	Pyinmana	+0·48	+0·41	−0·03	−1·01	+0·18	+3·60	−1·23	−4·63	−2·38	−4·16	−0·02	+0·94	−7·85
	Pagan	+0·03	−0·03	−0·13	−0·10	−2·37	+2·19	−1·26	+2·56	+1·27	−1·22	−0·89	−0·17	−0·12
	Kyauksai	−0·17	−0·07	−0·12	−0·70	−0·39	−0·43	+0·59	+2·72	−1·52	+1·22	−0·61	−0·27	+0·05
	Bhamo	−0·16	−0·29	−0·62	+0·71	+5·29	+2·00	−0·81	−8·95	+0·45	−0·43	−0·87	−0·40	−4·08
	Kindat	−0·25	−0·28	−0·19	+0·96	−0·67	−4·50	−4·46	+9·62	+3·73	−4·50	−1·04	−0·38	−1·96
	Magwe	0	−0·02	−0·02	−0·85	−1·43	+0·41	−0·94	+2·12	+1·93	−1·20	−0·90	−0·44	−1·34
	Yemethin	+0·22	+0·86	−0·14	−1·46	−1·36	−0·71	+1·04	−0·23	+0·97	+1·19	−1·38	−0·27	−1·27
	Fort Sagaing	−0·03	−0·04	−0·17	−0·38	−0·82	+1·08	+1·38	−0·84	+0·18	−1·51	−1·55	−1·29	−2·98
	Mingin	−0·11	−0·03	−0·52	−0·39	+0·03	+1·62	+2·79	−0·79	−0·32	−0·93	−1·35	−0·20	−5·78
	Toungoo	+0·40	+0·26	−0·08	−1·88	+1·54	−3·28	−1·40	−7·12	+1·75	−4·15	−0·17	+0·78	−13·35
	Shwegyin	−0·12	−0·13	−0·28	−2·22	+1·65	−6·70	+2·79	−16·29	−3·08	−6·83	−1·52	+1·57	−31·16
	Moulmein	−0·14	+0·07	−0·23	−1·57	+7·73	−10·84	−2·71	−7·16	−0·68	−3·89	−1·44	+0·80	−20·06
	Tavoy	−0·09	−0·47	+0·79	−0·79	+10·30	−3·74	−6·48	−11·48	+7·91	−3·75	−1·40	−0·06	−12·26
	Mergui	−0·72	+1·20	+3·51	−1·52	+7·93	−8·92	−14·09	−4·39	−0·49	−6·95	−2·34	+1·35	−25·43
	Myingyan	−0·04	−0·05	−0·08	−0·07	−2·55	+1·39	+0·11	+1·13	+1·47	−2·36	−1·06	−0·19	−2·30
	Monywa	0	0	−0·22	+0·03	2·77	−3·05	−0·78	−0·54	−1·17	−3·17	−0·97	−0·15	−7·25
Pay Islands	Port Blair	−0·90	+5·33	+0·14	−2·94	+0·83	+3·20	−6·45	+14·87	+7·38	−3·92	+5·60	+0·76	+23·90
	Cocos Island	−0·31	+0·21	0	−0·93	−1·34	+2·70			No record				?

TABLE XXXI.—*Comparison of the monthly and total rainfall (in inches) in 1902, with the averages of past years*—concld.

Province.	Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Kashmir	Leh	−0·31	−0·34	+0·45	+0·41	+0·11	−0·06	−0·24	−0·04	−0·21	+0·01	+0·11	−0·18	−0·29
	Srinagar	−3·36	−3·63	+1·10	+0·50	+0·56	+1·24	−0·40	−0·19	−0·48	−0·27	+1·39	−1·08	−4·62
	Skardu	−1·49	−1·19	+0·81	−1·23	−0·33	−0·05	−0·22	−0·78	−0·59	−0·03	−0·02	−0·61	−5·73
	Gilgit	−0·11	−0·15	+0·80	+0·76	+0·41	−0·15	+0·16	0	−0·22	+0·13	+0·05	+0·20	+1·88
Nepal	Katmandu	−0·87	−1·07	+0·50	+0·89	+1·71	+2·94	−0·35	+5·24	+3·98	−1·49	−0·18	−0·26	+11·04
Extra India.	Meshed	+1·60	+0·38	−0·65	−0·49	−0·97	−0·24	−0·02	+0·05	−0·07	+0·93	+0·90	+0·62	+2·04
	Teheran	+0·97	−0·10	−1·23	+0·69	−0·41	−0·04	+0·01	−0·04	−0·11	+0·76	+1·30	−1·13	+0·67
	Ispahan	+0·46	−0·07	+0·59	+0·30	−0·09	+0·03	−0·05	0	0	−0·27	+3·21	+1·00	+5·21
	Bushire	−2·08	−2·44	−0·65	−0·09	−0·01	0	0	0	0	+0·26	+4·09	−0·36	−1·28
	Jask	−0·58	−0·45	−0·99	−0·03	0	−0·10	−0·02	0	0	+0·22	−0·54	−0·27	−2·76
	Muscat	−1·46	−0·58	−1·00	+0·24	0	−0·32	−0·04	0	0	+0·98	−0·65	−0·02	−2·85
	Baghdad	−1·09	−1·69	+0·20	+0·99	−0·22	−0·01	?	−0·09	?	+0·44	+1·00	−1·26	?
	Aden	−0·23	−0·21	−0·74	−0·25	−0·17	−0·04	−0·04	−0·13	−0·12	−0·01	−0·06	−0·13	−2·13
	Perim	−0·31	−0·33	0	+0·11	−0·37	?	−0·17	−0·43	−0·01	−0·05	+0·02	−0·07	?
	Kabul	−0·98	−0·26	−2·39	−0·09	+0·04	−0·18	−0·21	−0·16	−0·02	+0·35	−0·09	−0·25	−4·24
	Kashgar	−0·28	−0·04	−0·21	+0·95	−0·79	−0·40	−0·34	−0·71	+0·71	−0·03	−0·02	−0·18	−1·34
	Zanzibar	−3·04	+2·32	−0·02	−2·15	+1·85	−0·36	+2·19	−1·07	+0·54	+2·64	−0·90	+6·24	+8·24
	Port Victoria (Seychelles)	−2·92	+2·48	−2·60	−3·29	−0·50	−4·96	−1·65	+0·84	−2·49	+3·06	−1·64	−0·66	−1·17
	Mauritius	−4·96	+10·47	−3·03	−3·50	−2·19	−0·26	−0·19	−1·79	−0·13	+0·36	−0·57	+4·92	−0·07

TABLE XXXII—*Geographical summary of rainfall anomalies in 1902.*

Meteorological Division.	Area square miles.	Number of stations.	Normal rainfall.	Actual rainfall.	Mean excess or defect.	Total excess square miles × 1 inch.	Total defect square miles × 1 inch.
			Inches.	Inches.	Inches.		
I. Punjab Plains	120,000	29	21·28	15·92	−5·36		643,200
II. United Provinces of Agra and Oudh	83,500	44	38·15	33·17	−4·98		415,830
IIIa. Rajputana East	67,000	29	25·98	19·73	−6·25		418,750
IIIb. „ West	58,000	10	11·71	7·62	−4·09		237,220
IV Central India States	91,000	25	42·78	36·87	−5·91		537,810
V. Bihar	30,000	15	45·58	44·03	−1·55		46,500
VI. Western Bengal	38,000	14	53·21	47·60	−5·61		213,180
VII. Lower „	54,000	28	66·16	70·51	+4·35	234,900	
VIII. Assam and Cachar	61,000	17	95·03	106·27	+11·24	685,640	
IX. Orissa and Northern Circars	27,000	32	52·10	49·65	−2·45		66,150
X. Central Provinces, South	61,000	19	52·47	35·51	−16·96		1,034,560
XI. Berar and Khandesh	43,000	13	35·40	29·85	−5·55		238,650
XII. Gujarat	54,500	13	33·02	29·92	−3·10		168,950
XIII. Sind and Cutch	68,000	10	8·26	9·25	+0·99	67,320	
XIV. North Deccan	48,000	13	30·60	32·60	+2·00	96,000	
XV. Konkan and Ghats	16,000	11	139·15	134·78	−4·37		69,920
XVI. Malabar and Ghats	18,000	8	114·93	124·76	+9·83	176,940	
XVII. Hyderabad	74,000	17	33·27	28·26	−5·01		370,740
XVIII. Mysore and Bellary	58,000	18	29·15	30·43	+1·28	74,240	
XIX. Carnatic	72,000	36	36·84	47·75	+10·91	785,520	
XX. Arakan	11,000	6	154·30	156·44	+2·14	23,540	
XXI. Pegu	32,500	7	72·55	66·43	−6·12		198,900
XXII. Tenasserim	10,500	4	173·33	151·11	−22·22		233,310
XXIII. Upper Burma	?	13	39·50	36·85	−2·65		

On the mean of the whole area represented in the above table there was a defect of 2·30 inches, or, excluding the Burmese Peninsula of 2·05 inches.

TABLE XXXIII.—*Geographical summary of the distribution of rainfall in 1902 according to season.*

Meteorological Division.	January and February.			March to May.			June to October.			November and December.		
	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
North-West Himalayas	6·03	0·77	—5·26	7·11	7·71	+0·60	42·43	35·94	—6·49	1·66	0·18	—1·48
Punjab Plains	2·21	0·06	—2·15	2·42	1·77	—0·65	15·92	14·07	—1·85	0·73	0·01	—0·72
United Provinces of Agra and Oudh.	1·52	0·27	—1·25	1·38	0·87	—0·51	35·80	32·75	—3·05	0·45	0·03	—0·42
Rajputana	0·49	0·08	—0·41	0·78	0·44	—0·34	21·45	16·05	—5·40	0·39	0·05	—0·34
Central India States	0·99	1·04	+0·05	0·75	0·26	—0·49	40·39	34·21	—6·18	0·65	1·37	+0·72
Bihar	1·26	0·16	—1·10	2·50	2·66	+0·16	41·12	40·15	—0·97	0·32	0·06	—0·26
Western Bengal and Chota Nagpur.	1·49	0·55	—0·94	3·59	3·80	+0·21	47·53	42·82	—4·71	0·60	0·42	—0·18
Lower Bengal	1·39	0·03	—1·36	10·55	16·97	+6·42	53·08	52·65	—0·43	0·71	0·46	—0·25
Eastern Himalayas	1·64	0·24	—1·40	18·03	20·59	+2·56	103·92	132·44	+28·52	0·55	0·61	+0·06
Assam and Eastern Bengal	1·83	0·52	—1·31	22·58	27·49	+4·91	69·44	77·91	+8·47	1·19	0·36	—0·83
Orissa and Northern Circars	0·74	0·11	—0·63	4·83	5·86	+1·03	44·29	41·40	—2·89	2·21	2·02	—0·19
Central Provinces South	0·93	0·14	—0·79	1·85	0·61	—1·24	48·85	33·81	—15·04	0·83	0·95	+0·12
Berar and Khandesh	0·51	0·22	—0·29	1·10	0·29	—0·81	32·76	26·28	—6·48	1·02	3·07	+2·05
Gujarat	0·18	0·17	—0·01	0·37	0·09	—0·28	31·95	29·57	—2·38	0·30	0·29	—0·01
Sind and Cutch	0·49	0	—0·49	0·45	0·57	+0·12	7·89	9·09	+1·20	0·21	0	—0·21
North Deccan	0·18	0·03	—0·15	3·42	3·04	—0·38	25·55	23·82	—1·73	1·45	5·71	+4·26
Konkan and Ghats	0·22	0	—0·22	1·71	0·41	—1·30	131·63	124·96	—6·67	0·89	4·28	+3·39
Malabar and Ghats	0·52	0·39	—0·13	11·34	7·69	—3·65	99·16	108·48	+9·32	3·91	8·20	+4·29
Hyderabad	0·26		—0·26	1·91	1·08	—0·83	29·18	24·23	—4·95	1·31	2·18	+0·87
Ceded Districts and Mysore	0·24	0·11	—0·13	4·80	4·68	—0·12	21·60	22·45	+0·85	2·52	3·19	+0·67
Carnatic	0·92	2·99	+2·07	4·07	3·57	—0·50	21·12	26·04	+4·92	10·66	14·78	+4·12
Nilgiris	2·53	4·81	+2·28	9·96	11·80	+1·84	26·70	35·75	+9·05	10·92	26·26	+15·34
Arakan	0·77	0	—0·77	14·96	21·00	+6·04	135·72	135·10	—0·62	2·87	0·35	—2·52
Pegu	0·20	0·19	—0·01	8·95	11·11	+2·16	66·27	60·98	—5·29	2·60	1·29	—1·31
Tenasserim	0·98	0·87	— ·11	22·36	28·69	+6·33	147·69	120·00	—27·69	2·31	1·55	—0·76
Upper Burma	0·21	0·25	+0·04	6·18	5·66	—0·52	30·29	29·05	1·24	1·48	0·35	—1·13
Bay Islands	1·15	3·31	+2·16	15·45	13·33	—2·12	76·30	91·13	+14·83	14·08	20·44	+6·36

TABLE XXXIV.—*Average actual and normal rainfall data of the 57 meteorological divisions in India for the four seasons of the year 1902 and for the whole year.*

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Burma	1. Tenasserim	0·44	0·62	—0·18	32·36	27·83	+4·53	153·98	164·62	—10·64	1·42	2·15	—0·73	188·20	195·22	—7·02
	2. Lower Burma, Deltaic	0.45	0·21	+0·24	16·49	14·08	+2·41	79·81	88·61	—8·80	1·26	1·76	—0·50	98·01	104·66	—6·65
	3. Central Burma	0·05	0·07	—0·02	9·00	7·76	+1·24	48·28	47·42	+0·86	0·76	1·23	—0·47	58·09	56·48	+1·61
	4. Upper Burma	0·16	0·30	—0·14	6·00	7·37	—1·37	36·45	32·40	+4·05	0·32	1·61	—1·29	42·93	41·68	+1·25
	5. Arakan	0·01	0·20	—0·19	11·20	14·33	—3·13	155·21	157·02	—1·81	0·24	1·93	—1·69	166·66	173·48	—6·82
Bengal and Assam	6. Eastern Bengal	0·01	1·42	—1·41	28·38	17·00	+113·8	80·12	70·60	+9·52	0·11	1·27	—1·16	108·62	90·29	+18·33
	7. Assam Surma	0·29	2·31	—2·02	40·19	39·17	+1·02	89·58	90·49	—0·91	0·32	1·65	—1·33	130·38	133·62	—3·24
	8. Do. Hills	0·33	1·98	—1·65	26·67	27·17	—0·50	106·15	104·66	+1·49	0·42	1·54	—1·12	133·57	135·35	—1·78
	9. Do. Brahmaputra	1·10	2·20	—1·10	23·16	23·68	—0·52	74·04	65·17	+8·87	0·56	0·93	—0·37	98·86	91·98	+6·88
	10. Deltaic Bengal	0	1·43	—1·43	18·02	9·91	+8·11	44·78	48·96	—4·18	0·85	0·89	—0·04	63·65	61·19	+2·46
	11. Central do.	0·03	1·21	—1·18	10·35	6·78	+3·57	46·26	48·03	—1·77	0·19	0·51	—0·32	56·83	56·53	+0·30
	12. North do.	0·04	1·02	—0·98	20·49	15·88	+4·61	95·21	82·54	+12·67	0·08	0·30	—0·22	115·82	99·74	+16·08
	13. Bengal Hills	0·41	1·55	—1·14	16·40	14·51	+1·89	121·17	93·21	+27·96	0·34	0·51	—0·17	138·32	109·78	+28·54
	14. Orissa	0·24	1·03	—0·79	7·27	6·07	+1·20	45·29	49·57	—4·28	1·92	1·70	+0·22	54·72	58·37	—3·65
	15. Chota Nagpur	0·59	1·31	—0·72	3·77	3·80	—0·03	41·01	44·71	—3·70	0·45	0·59	—0·14	45·82	50·41	—4·59
	16. South Bihar	0·28	1·41	—1·13	1·73	2·04	—0·31	36·44	41·24	—4·80	0·07	0·33	—0·26	38·52	45·02	—6·50
	17. North do.	0·01	1·12	—1·11	5·94	4·26	+1·68	45·30	47·97	—2·67	0	0·20	—0·20	51·25	53·55	—2·30
United Provinces of Agra and Oudh.	18. United Provinces, East	0·57	1·19	—0·62	0·48	0·86	—0·38	35·96	37·39	—1·43	0·12	0·39	—0·27	37·13	39·83	—2·70
	19. South Oudh	0·20	1·15	—0·95	0·35	0·89	—0·54	29·97	35·13	—5·16	0	0·47	—0·47	30·52	37·64	—7·12
	20. North do.	0·06	1·29	—1·23	1·55	1·52	+0·03	36·93	38·86	—1·93	0	0·42	—0·42	38·54	42·09	—3·55
	21. United Provinces, Central.	0·60	0·99	—0·39	0·11	0·71	—0·60	27·14	32·57	—5·43	0·07	0·49	—0·42	27·92	34·76	—6·84
	22. United Provinces, West	0·01	1·08	—1·07	0·22	0·95	—0·73	23·04	22·65	+0·39	0	0·42	—0·42	23·27	25·10	—1·83
	23. United Provinces, East Submontane.	0·04	1·22	—1·18	2·14	1·72	+0·42	37·65	42·19	—4·54	0·01	0·25	—0·24	39·84	45·38	—5·54
	24. United Provinces, West Submontane.	0·30	2·66	—2·36	1·71	1·83	—0·12	38·02	42·38	—4·36	0	0·72	—0·72	40·03	47·59	—7·56
	25. United Provinces Hills	0·49	4·84	—4·35	4·92	4·62	+0·30	48·05	53·26	—5·21	0·07	1·07	—1·00	53·53	63·79	—10·26
Punjab and North-West Frontier Province.	26. South-East Punjab	0·01	1·13	—1·12	0·89	1·32	—0·43	18·53	19·27	—0·74	0·25	0·97	—0·72	19·68	22·69	—3·01
	27. South Punjab	0·03	1·08	—1·05	1·31	1·39	—0·08	10·28	13·07	—2·79	0	0·43	—0·43	11·62	15·97	—4·35
	28. Central Punjab	0·09	2·00	—1·91	1·74	2·36	—0·62	13·00	13·71	—0·71	0	0·54	—0·54	14·83	18·61	—3·78
	29. Punjab Submontane	0·05	2·90	—2·85	2·53	2·72	—0·19	17·43	23·32	—5 89	0·01	0·82	—0·81	20·02	29·76	—9·74
	30. Do. Hills	0·95	6·55	—5·60	9·05	8·49	+0·56	30·64	43·40	—12·76	0·16	1·85	—1·69	40·80	60·29	—19·49

TABLE XXXIV.—*Average actual and normal rainfall data of the 57 meteorological divisions in India for the four seasons of the year 1902 and for the whole year*—concld.

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.	Average actual rainfall.	Average normal rainfall.	Variation of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Punjab and North-West Frontier Province—*concld.*	31. North Punjab	0·08	3·60	—3·52	4·70	4·66	+0·04	14·20	13·21	+0·99	0·27	1·13	—0·86	19·25	22·60	—3·35
	32. West do.	0	1·04	—1·04	1·28	1·57	—0·29	5·97	6·25	—0·28	0	0·32	—0·32	7·25	9·18	—1·93
Bombay and Malabar Coast Districts (Madras).	33. Malabar	0·29	0·38	—0·09	7·42	10·96	—3·54	126·95	109·95	+17·00	9·28	4·21	+5·07	143·94	125·50	+18·44
	33-A. Travancore	1·09			11·07			76·49			12·79			101·44		
	34. Madras South Central	1·19	0·47	+0·72	7·01	5·91	+1·10	19·96	18·01	+1·95	7·70	5·05	+2·65	35·86	29·44	+6·42
	35. Coorg	0·49			10·89			82·52			11·36			105·26		
	36. Mysore	0·09	0·18	—0·09	5·98	5·18	+0·80	28·22	26·03	+2·19	4·93	3·15	+1·78	39·22	34·54	+4·68
	37. Konkan	0·01	0·18	—0·17	0·62	1·99	—1·37	102·18	110·02	—7·84	3·78	0·95	+2·83	106·59	113·14	—6·55
	38. Bombay Deccan	0·08	0·18	—0·10	1·71	3·10	—1·39	25·92	31·06	—5·14	5·68	1·40	+4·28	33·39	35·74	—2·35
	39. Hyderabad, North	0·02	0·24	—0·22	0·56	1·53	—0·97	26·72	32·59	—5·87	3·19	1·30	+1·89	30·49	35·66	—5·17
	40. Khandesh	0·45	0·24	+0·21	0·39	0·83	—0·44	24·20	29·24	—5·04	2·64	0·70	+1·94	27·68	31·01	—3·33
Central Provinces and Berar.	41. Berar	0·13	0·52	—0·39	0·36	0·98	—0·62	25·20	29·61	—4·41	2·47	0·85	+1·62	28·16	31·96	—3·80
	42. Central Provinces, West.	0·24	0·74	—0·50	0·21	0·99	—0·78	29·44	41·51	—12·07	2·05	0·81	+1·24	31·94	44·05	—12·11
	43. Central Provinces Central.	0·52	0·98	—0·46	0·36	1·29	—0·93	34·05	47·91	—13·86	1·57	0·67	+0·90	36·50	50·85	—14·35
	44. Central Provinces East	0·05	0·64	—0·59	1·64	1·93	—0·29	37·32	48·56	—11·24	0·36	0·70	—0·34	39·37	51·83	—12·46
Bombay (North)	45. Gujarat	0·16	0·15	+0·01	0·04	0·25	—0·21	40·68	40·76	—0·08	0·58	0·22	+0·36	41·46	41·38	+0·08
	46. Kathiawar and Cutch	0·05	0·15	—0·10	0·09	0·29	—0·20	21·82	26·64	—4·82	0·33	0·39	—0·06	22·29	27·47	—5·18
	47. Sind	0	0·53	—0·53	1·00	0·39	+0·61	8·18	5·51	+2·67	0	0·20	—0·20	9·18	6·63	+2·55
	48. Baluchistan Hills	0·04	2·93	—2·89	0·56	·85	—1·29	2·15	2·16	—0·01	0·50	1·49	—0·99	3·25	8·43	—5·18
Rajputana and Central India.	49. Central India, East	1·17	0·87	+0·30	0·26	0·52	—0·26	33·24	35·56	—2·32	0·47	0·64	—0·17	35·14	37·59	—2·45
	50. Rajputana, East, Central India, West.	0·19	0·64	—0·45	0·32	0·74	—0·42	22·26	22·55	—0·29	0·07	0·59	—0·52	22·84	24·52	—1·68
	51. West Rajputana	0	0·29	—0·29	0·19	0·44	—0·25	8·43	10·71	—2·28	0	0·34	—0·34	8·62	11·78	—3·16
Madras	52. East Coast, North	0·10	0·50	—0·40	3·17	3·65	—0·48	36·90	34·57	+2·33	2·69	3·30	—0·61	42·86	42·02	+0·84
	53. Hyderabad, South	0	0·27	—0·27	1·56	2·13	—0·57	22·34	26·12	—3·78	1·73	1·27	+0·46	25·63	29·79	—4·16
	54. Madras, Central	0·15	0·12	+0·03	2·36	2·46	—0·10	21·15	19·65	+1·50	2·02	2·59	—0·57	25·68	24·82	+0·86
	55. East Coast, Central	0·05	0·57	—0·52	0·77	1·91	—1·14	30·45	20·50	+9·95	17·50	10·19	+7·31	48·77	33·17	+15·60
	56. East Coast, South	3·20	0·90	+2·30	2·51	3·39	—0·88	26·97	23·17	+3·80	18·14	14·17	+3·97	50·82	41·63	+9·19
	57. Madras, South	5·43	1·40	+4·03	5·18	4·92	+0·26	18·15	12·51	+5·64	15·25	9·82	+5·43	44·01	28·65	+15·36

TABLE XXXV.—*Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1902 and for the whole year.*

Province.	Division.	January and February.			March to May.			June to October.			November and December.			Whole year.		
		Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.
Burma	1. Tenasserim	0·7	1·1	—0·4	27·1	25·1	+2·0	110·1	114·1	—4·0	2·7	3·7	—1·0	140·6	144·0	—3·4
	2. Lower Burma Deltaic	0·9	0·3	+0·6	15·7	17·5	—1·8	95·9	103·5	—7·6	2·3	2·8	+0·1	115·4	124·1	—8·7
	3. Central Burma	0·1	0·1	0	10·2	11·1	—0·9	73·4	75·7	—2·3	1·5	2·0	—0·5	85·2	88·9	—3·7
	4. Upper Burma	0·6	0·7	—0·1	11·4	11·4	0	47·9	45·0	+2·9	0·9	2·9	—2·0	60·8	60·0	+0·8
	5. Arakan	0·1	0·3	—0·2	13·5	14·1	—0·6	97·8	104·4	—6·6	0·5	2·7	—2·2	111·9	121·5	—9·6
Bengal and Assam	6. Eastern Bengal	0	2·5	—2·5	29·1	18·9	+10·2	73·4	72·9	+0·5	0·5	1·6	—1·1	103·0	95·9	+7·1
	7. Assam Surma	0·7	4·3	—3·6	39·6	37·4	+2·2	86·3	87·7	—1·4	0·9	2·1	—1·2	127·5	131·5	—4·0
	8. Do. Hills	0·9	4·3	—3·4	37·4	30·2	+7·2	88·9	89·2	—0·3	1·3	3·0	—1·7	128·5	126·7	+1·8
	9. Do. Brahmaputra	3·1	5·6	—2·5	36·6	32·5	+4·1	72·8	69·1	+3·7	1·6	2·2	—0·6	114·1	109·4	+4·7
	10. Deltaic Bengal	0	2·3	—2·3	21·7	13·8	+7·9	58·1	62·1	—4·0	1·7	1·2	+0·5	81·5	79·4	+2·1
	11. Central do.	0	2·4	—2·4	16·5	10·0	+6·5	55·4	58·2	—2·8	0·5	0·8	—0·3	72·4	71·4	+1·0
	12. North do.	0·1	2·3	—2·2	25·1	18·5	+6·6	73·0	66·9	+6·1	0·2	0·7	—0·5	98·4	88·4	+10·0
	13. Bengal Hills	1·3	3·8	—2·5	32·1	25·8	+6·3	96·2	89·2	+7·0	1·0	1·4	—0·4	130·6	120·2	+10·4
	14. Orissa	0·7	1·8	—1·1	12·7	9·2	+3·5	52·4	58·7	—6·3	2·3	2·0	+0·3	68·1	71·7	—3·6
	15. Chota Nagpur	1·5	2·6	—1·1	7·7	6·9	+0·8	50·0	58·1	—8·1	0·9	1·0	—0·1	60·1	68·6	—8·5
	16. South Bihar	0·8	3·0	—2·2	3·7	3·5	+0·2	45·4	46·9	—1·5	0·2	0·6	—0·4	50·1	54·0	—3·9
	17. North do.	0	2·4	—2·4	9·2	6·3	+2·9	49·2	49·4	—0·2	0	0·5	—0·5	58·4	58·6	—0·2
United Provinces of Agra and Oudh.	18. United Provinces, East	1·6	2·6	—1·0	1·2	1·9	—0·7	43·1	42·7	+0·4	0·3	0·7	—0·2	46·4	47·9	—1·5
	19. South Oudh	0·9	2·4	—1·5	1·1	2·0	—0·9	38·2	38·6	—0·4	0	0·8	—0·8	40·2	43·8	—3·6
	20. North do.	0·2	2·8	—2·6	3·9	2·9	+1·0	39·3	39·9	—0·6	0	0·8	—0·8	43·4	46·4	—3·0
	21. United Provinces, Central.	1·7	2·2	—0·5	0·4	1·8	—1·4	33·3	36·8	—3·5	0·2	0·9	—0·7	35·6	41·7	—6·1
	22. United Provinces, West.	0	2·6	—2·6	0·8	2·6	—1·8	30·1	27·8	+2·3	0	0·9	—0·9	30·9	33·9	—3·0
	23. United Provinces, East Submontane.	0·3	2·5	—2·2	3·9	3·1	+0·8	43·4	43·1	+0·3	0	0·6	—0·6	47·6	49·3	—1·7
	24. United Provinces, West Submontane.	0·5	4·8	—4·3	4·1	4·1	0	37·6	39·0	—1·4	0	1·4	—1·4	42·2	49·3	—7·1
	25. United Provinces Hills	1·0	8·1	—7·1	11·1	9·7	+1·4	53·6	57·0	—3·4	0·2	2·0	—1·8	65·9	76·8	—10·9
Punjab and North-West Frontier Province.	26. South-East Punjab	0·1	2·4	—2·3	2·2	3·0	—0·8	21·8	21·5	+0·3	0·6	1·6	—1·0	24·7	28·5	—3·8
	27. South Punjab	0·1	2·4	—2·3	3·6	2·9	+0·7	15·2	15·8	—0·6	0	0·9	—0·9	18·9	22·0	—3·1
	28. Central Punjab	0·3	4·0	—3·7	5·1	4·8	+0·3	17·5	15·5	+2·0	0	0·9	—0·9	22·9	25·2	—2·3
	29. Punjab Submontane	0·2	4·9	—4·7	6·1	4·9	+1·2	23·2	23·2	0	0	1·4	—1·4	29·5	34·4	—4·9
	30. Do. Hills	2·3	8·7	—6·4	17·5	13·2	+4·3	44·3	43·4	+0·9	0·5	2·7	—2·2	64·6	68·0	—3·4

TABLE XXXV.—*Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1902 and for the whole year*—concld.

PROVINCE.	DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER.			WHOLE YEAR.		
		Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Variation of actual from normal.
PUNJAB AND NORTH-WEST FRONTIER PROVINCE—*concld.*	31. North Punjab	0·4	5·8	—5·4	10·6	8·9	+1·7	21·6	17·5	+4·1	0·7	2·1	—1·4	33·3	34·3	—1·0
	32. West do.	0	2·4	—2·4	2·9	3·1	—0·2	9·4	8·6	+0·8	0	0·7	—0·7	12·3	14·8	—2·5
BOMBAY AND MALABAR COAST DISTRICTS (MADRAS).	33. Malabar	0·8	0·3	+0·5	11·5	13·7	—2·2	96·7	97·8	—1·1	11·4	6·2	+5·2	120·4	118·0	+2·4
	33A. Travancore	1·9			18·9			80·3			17·6			118·7		
	34. Madras South Central	2·6	0·7	+1·9	11·1	9·3	+1·8	28·9	28·1	+0·8	13·2	7·9	+5·3	55·8	46·0	+9·8
	35. Coorg	0·7			19·3			83·7			12·3			116·0		
	36. Mysore	0·2	0·3	—0·1	10·3	8·8	+1·5	40·8	39·8	+1·0	7·2	4·9	+2·3	58·5	53·8	+4·7
	37. Konkan	0	0·3	—0·3	1·3	2·7	—1·4	82·6	92·0	—9·4	6·1	1·6	+4·5	90·0	96·6	—6·6
	38. Bombay Deccan	0·1	0·4	—0·3	3·3	5·9	—2·6	40·9	45·2	—4·3	8·1	2·2	+5·9	52·4	53·7	—1·3
	39. Hyderabad, North	0·1	0·5	—0·4	1·5	3·7	—2·2	39·4	46·0	—6·6	5·3	2·2	+3·1	46·3	52·4	—6·1
	40. Khandesh	0·9	0·6	+0·3	0·8	1·6	—0·8	35·4	42·1	—6·7	5·6	1·2	+4·4	42·7	45·5	—2·8
CENTRAL PROVINCES AND BERAR.	41. Berar	0·4	1·2	—0·8	0·9	2·2	—1·3	35·5	40·8	—5·3	5·7	1·3	+4·4	42·5	45·5	—3·0
	42. Central Provinces, West.	0·9	1·4	—0·5	0·6	2·2	—1·6	40·2	48·5	—8·3	4·8	1·3	+3·5	46·5	53·4	—6·9
	43. Central Provinces, Central.	1·6	2·0	—0·4	1·1	2·8	—1·7	40·9	53·1	—12·2	2·2	1·2	+1·0	45·8	59·1	—13·3
	44. Central Provinces, East.	0·2	1·3	—1·1	4·0	4·3	—0·3	45·1	53·6	—8·5	0·9	1·2	—0·3	50·2	60·4	—10·2
BOMBAY (NORTH)	45. Gujarat	0·4	0·3	+0·1	0·1	0·5	—0·4	34·0	44·2	—10·2	1·5	0·6	+0·9	36·0	45·6	—9·6
	46. Kathiawar and Cutch	0·1	0·3	—0·2	0·3	0·6	—0·3	23·3	29·4	—6·1	0·6	0·6	0	24·3	30·9	—6·6
	47. Sind	0	1·5	—1·5	1·0	1·0	0	8·0	6·2	+1·8	0	0·5	—0·5	9·0	9·2	—0·2
	48. Baluchistan Hills	0·2	6·7	—6·5	2·1	5·0	—2·9	4·3	3·9	+0·4	1·8	3·6	—1·8	8·4	19·2	—10·8
RAJPUTANA AND CENTRAL INDIA.	49. Central India East	2·3	1·9	+0·4	0·8	1·3	—0·5	38·0	41·6	—3·6	1·0	1·3	—0·3	42·1	46·1	—4·0
	50. Rajputana East, Central India, West.	0·5	1·6	—1·1	1·1	1·9	—0·8	27·1	28·3	—1·2	0·2	1·2	—1·0	28·9	33·0	—4·1
	51. West Rajputana	0	0·8	—0·8	0·5	1·1	—0·6	12·6	13·5	—0·9	0	0·7	—0·7	13·1	16·1	—3·0
MADRAS	52. East Coast, North	0·3	0·7	—0·4	5·6	6·1	—0·5	47·5	45·9	+1·6	4·5	3·5	+1·0	57·9	56·2	+1·7
	53. Hyderabad, South	0	0·6	—0·6	4·3	4·3	0	36·9	42·5	—5·6	3·2	2·5	+0·7	44·4	49·9	—5·5
	54. Madras, Central	0·3	0	+0·3	5·9	4·7	+1·2	33·1	30·6	+2·5	3·9	4·1	—0·2	43·2	39·4	+3·8
	55. East Coast Central,	0·2	0·8	—0·6	1·6	2·7	—1·1	38·3	28·3	+10·0	12·9	9·1	+3·8	53·0	40·9	+12·1
	56. Do. South	3·6	1·5	+2·1	4·1	4·6	—0·5	35·6	31·1	+4·5	20·4	14·3	+6·1	63·7	51·5	+12·2
	57. Madras, South	5·2	2·3	+2·9	7·8	7·5	+0·3	23·1	18·9	+4·2	19·8	12·5	+7·3	55·9	41·2	+14·7

I.—The cold weather period.—This was a singularly dry period, the driest cold weather season for many years past. No cold weather storm entered India from the Persian area during January. A shallow depression formed over Gujarat on the 7th January and was transferred eastwards on the 8th and 9th, filling up as it advanced. It gave light rain, chiefly in Central India, on the 7th and 8th. February, like January, was characterized throughout by great dryness of the air and absence of cloud and rain. A very feeble depression advanced from Baluchistan across Northern India between the 27th of January and 2nd of February. It gave some cloud but no rain in the plains of Northern India. A shallow depression formed on the 14th February in Gujarat, an area which had been marked by unusually high temperature locally during the previous four days. It extended slowly eastwards on the 16th, apparently filling up, but re-appeared in Gujarat on the 18th and shifted northwards into West Rajputana on the 19th and eastwards on the 20th and 21st and filled up on the 22nd. It gave feebly disturbed weather with duststorms and thunderstorms over Central India, Chota Nagpur, Bihar and Bengal, but the rainfall accompanying the storm was generally very light. A shallow depression appeared in the Persian area on the 25th and passed across Baluchistan and Upper India on the 26th and 27th breaking up against the Punjab hills on the 27th. It gave some snow in Kashmir and light rain in Persia.

The rainfall of the period was more or less largely in defect over nearly the whole of India and Burma. The normal rainfall is less than an inch in Sind, Rajputana, Gujarat and nearly the whole of the Peninsula. Over a considerable portion of that area the precipitation was practically *nil* (less than a tenth of an inch). This was the case in West Rajputana, Sind, Kathiawar and Cutch, Hyderabad (Deccan), the east of the Central Provinces, the Bombay Deccan, Konkan, Mysore and the central coast districts of Madras.

The following gives comparative data for these areas:—

Area.		Rainfall of period, January and February.			
		Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
		Inch.	Inches.	Inches.	
Bombay	Mysore	0·09	0·18	−0·09	−50
	Konkan	0·01	0·18	−0·17	−94
	Bombay Deccan	0·08	0·18	−0·10	−56
	Kathiawar and Cutch.	0·05	0·15	−0·10	−67
	Sind	0	0·53	−0·53	−100
	Baluchistan	0·04	2·93	−2·89	−99
Central Provinces.	Central Provinces East	0·05	0·64	−0·59	−92
Hyderabad	Hyderabad North	0·02	0·24	−0·22	−92
	,, South	0	0·27	−0·27	−100
Rajputana	Rajputana West	0	0·29	−0·29	−100
Madras	East Coast North	0·10	0·50	−0·40	−80
	East Coast Central	0·05	0·57	−0·52	−91

The precipitation was in slight excess in the areas which received showers from the two depressions that formed in Gujarat. The following gives data:—

Area.	Rainfall of period, January and February.			
	Average actual, 1902.	Average normal.	aria tion of actual from normal.	Percentage variation from normal.
	Inches.	Inch.	Inch.	
Khandesh	0·16	0·24	+0·21	+88
Gujarat	1·17	0·15	+0·01	+7
Central India East	1·17	0·87	+0·30	+34

The normal rainfall of the period is slight to moderate in amount (ranging between one and seven inches) in the districts of Northern India including the Punjab, United Provinces, Bengal and Assam, and is, on the whole, greatest in the hill and submontane districts. The rainfall was especially scanty and deficient in the hill and submontane districts of Upper India and was less than a tenth of an inch in parts of the United Provinces and the greater part of the Punjab and of Bengal.

The following gives data:—

Area.	Rainfall of period, January and February.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	Inches.	Inches.	Inches.
Assam Surma	0·29	2·31	−2·02	−87
,, Hills	0·33	1·98	−1·65	−83
,, Brahmaputra	1·10	2·20	−1·10	−50
Eastern Bengal	0·01	1·42	−1·41	−99
Deltaic ,,	0	1·43	−1·43	−100
Central ,,	0·03	1·21	−1·18	−98
North ,,	0·04	1·02	−0·98	−96
Bengal Hills	0·41	1·55	−1·14	−74
South Bihar	0·28	1·41	−1·13	−80
North ,,	0·01	1·12	−1·11	−99
Orissa	0·24	1·03	−0·79	−77
United Provinces East	0·57	1·19	−0·62	−52
South Oudh	0·20	1·15	−0·95	−83
North ,,	0·06	1·29	−1·23	−95
United Provinces Central	0·60	0·99	−0·39	−39
,, ,, West	0·01	1·08	−1·07	−99
,, ,, East Submontane	0·04	1·22	−1·18	−97
,, ,, West ,,	0·30	2·66	−2·36	−89
,, ,, Hills	0·49	4·84	−4·35	−90

Area.	Rainfall of period, January and February.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inch.	Inches.	Inches.	
South-East Punjab	0·01	1·13	—1·12	—99
South Punjab	0·03	1·08	—1·05	—97
Central Punjab	0·09	2·00	—1·91	—96
Punjab Submontane	0·05	2·90	—2·85	—98
„ Hills	0·95	6·55	—5·60	—85
North Punjab	0·08	3·60	—3·52	—98
West „	0	1·04	—1·04	—100

The rainfall was as deficient in Burma generally as in Northern India, as is shown below:—

Area.	Rainfall of period, January and February.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inch.	Inch.	Inch.	
Tenasserim	0·44	0·62	—0·18	—29
Lower Burma Deltaic	0·45	0·21	+0·24	+114
Central Burma	0·05	0·07	—0·02	—29
Upper „	0·16	0·30	—0·14	—47
Arakan	0·01	0·20	—0·19	—95

The southern districts of Madras and Lower Burma had more frequent thundershowers than usual and the rainfall was hence in large excess, relatively to the normal, in Southern India. The following gives data:—

Area.	Rainfall of period, January and February.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches	Inches	Inches	
Lower Burma Deltaic	0·45	0·21	+0·24	+114
Madras East Coast South	3·20	0·90	+2·30	+256
„ South	5·43	1·40	+4·03	+288
„ South-Central	1·19	0·47	+0·72	+153
„ Central	0·15	0·12	+0·03	+25

The following gives the amounts of snowfall registered at five of the stations in the Western Himalayas where the measurements are believed to be most carefully taken:—

District or State.	Station or Pass.	Height in feet above sea-level.	Total snowfall in the month of		Total of period.		Approximate normal snowfall of period.	
			January 1902.	February 1902.				
			Ft. In.	Ft. In.	Ft. In.		Ft. In.	
Rawalpindi	Murree	6,333	*Nil*	*Nil*	*Nil*		11	9
Lahoul	Kailang	10,087	0 11	0 5	1 4		4	7
Chamba	Kalatop	8,000	1 2	*Nil*	1 2		9	11
Kumaon	Pindari Pass		2 6	1 6	4 0		13	5*
	Ralumdhura Pass		8 0	24 0	32 0		33	3*

* Mean of 4 years.

The average rainfall of the period for the whole of the plains of India was 0·40 inch and was 0·61 inch or 60 per cent. in defect of the normal of the period.

II.—The hot weather period.—The rainfall of the month of March in Northern India occurred solely during the advance of a series of feeble depressions or storms of the cold weather type from the highlands of Persia and Baluchistan eastwards to Bengal. An unusual feature of these depressions was that when they advanced into North-Eastern India they intensified in intensity and the local indraught from the Bay contributed to increase the rainfall due to the high level disturbance. The month was hence unusually rainy in Bengal and the precipitation was largely above the normal in that area. The rainfall of the month was on the other hand, scanty and below the normal over a large part of North-Western and Central India, Baluchistan and the northern half of the Peninsula. In Southern India the rainfall was larger in amount than usual accompanying series of thunderstorms which occurred when stronger north-east winds than usual were blowing across the coast.

The chief periods of rainfall during the month were:—

(1) The 1st and 2nd, when light to moderate showers fell in Kashmir and the Punjab hills.

(2) The 5th to the 8th, when moderate rain or snow occurred in the Kashmir and Punjab Himalayas.

(3) The 12th, 13th and 14th, when Bengal obtained moderate to heavy rain and Assam moderate rain.

(4) The 14th to the 23rd. Baluchistan, Kashmir, the greater part of the Punjab and the adjacent districts of the United Provinces received light to moderate showers from the 14th to the 19th and Bengal and Assam moderate rain from the 15th to the 23rd. This rainfall was most general from the 19th to the 23rd, when moderate to heavy rain was received over nearly the whole of North Eastern India.

(5) The 24th to the 29th. Baluchistan received rain from the 24th to the 26th, Kashmir on the 26th and 27th, the greater part of the Punjab on the 27th and 28th and

the Assam Valley on the 28th and 29th. Southern India obtained a moderately heavy burst of rain from the 27th to the 29th, during which period the rapid rise of pressure in Bengal following the filling up of the preceding disturbance gave strong north-east winds on the Madras coast.

The rainfall of the month was a tenth of an inch or less in 25 out of the 56 meteorological rainfall divisions, between a tenth of an inch and half an inch in nine divisions and between half an inch and an inch in five divisions. The area of rainfall less than an inch in amount included Burma (excepting Tenasserim), Orissa, Chota Nagpur, South Bihar, the plains of the United Provinces, Punjab (except the northern and hill districts), Bombay, Berar, the Central Provinces, Central India, Rajputana and North and Central Madras. It was less than a tenth of an inch in Bombay, Central Madras, the Central Provinces, Berar, Central India, Rajputana and the greater part of the United Provinces and Burma. The rainfall ranged between one and four inches in the districts, for which data are given below:—

Division.	Rainfall.			
	Average actual, March 1902.	Average normal, March.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Tenasserim	1·17	0·82	+0·35	+43
Eastern Bengal	1·78	2·31	−0·53	−23
Assam Hills	2·72	4·12	−1·40	−34
Assam Brahmaputra	3·91	3·56	+0·35	+10
Deltaic Bengal	2·69	1·44	+1·25	+87
Central „	1·29	0·80	+0·49	+61
North „	3·93	1·26	+2·67	+212
Bengal Hills	2·85	1·71	+1·14	+67
Bihar (North)	1·53	0·39	+1·14	+292
United Provinces Hills	1·03	1·39	−0·36	−26
Punjab Hills	3·82	3·44	+0·38	+11
Punjab (North)	1·69	1·96	−0·27	−14
Malabar	1·27	0·53	+0·74	+140
Travancore	2·34	?	?	?
Coorg	1·36	?	?	?

The month of April was very dry over the greater part of the interior of India and more disturbed and rainy than usual in Bengal and Assam, the east of the Central Provinces, the hill and submontane districts of Upper India, Ganjam and Mysore. The rainfall in Northern India accompanied the advance of a series of depressions from the hot weather sink in Upper India (Sind) to Bengal. These depressions in April usually advance due east and break up against the Simla and Mussooree hills. In April 1902 they advanced along more southerly tracks to Bihar and Bengal. Their march was accompanied by duststorms in North-Western India and by more or less severe thunderstorms in North-East India. In Mysore and Ganjam, on the other hand, the rainfall was due to local storms such as usually occur in these areas in the hot weather period. Moderate to heavy snow fell during the month on the higher ranges of the Kashmir and Punjab Himalayas.

The rainfall of the month was actually or practically *nil* (*i.e.*, less than a tenth of an inch) over the area including Gujarat, Kathiawar and Cutch, Sind, Central India, Rajputana, Khandesh, the Konkan, the eastern and central districts of the United Provinces and South Oudh, that is in eleven out of the 56 rainfall divisions. It was less than one inch and over a tenth of an inch in 33 divisions including Lower and Central Burma, the greater part of Madras, the Central Provinces, Berar, Bombay, the greater part of the Punjab, the United Provinces, Bihar and Chota Nagpur.

The following gives a brief summary of the data for these areas:—

Division.	Rainfall.			
	Average actual, April 1902.	Average normal, April.	Variation of actual from normal, April 1902.	Percentage variation from normal.
	Inch.	Inches.	Inches.	
Burma (Central and Lower)	0·21	1·39	−1·18	−85
Bihar	0·64	0·55	+0·09	+16
Chota Nagpur	0·95	0·85	+0·10	+12
United Provinces of Agra and Oudh	0·17	0·17	0	0
Punjab	0·61	0·68	−0·07	−10
Central Provinces	0·49	0·35	+0·14	+40
Berar	0·31	0·24	+0·07	+29
Bombay	0·13	0·32	−0·19	−59
Baluchistan Hills	0·20	0·48	−0·28	−58
Madras, Central	0·79	0·61	+0·18	+30
„ East Coast Central	0·46	0·46	0	0
„ „ South	0·16	0·92	−0·76	−83

It ranged between one and two inches in South and South-Central Madras, East Coast North, Malabar, Mysore, the North Punjab and Central Provinces East, where it was

generally in slight excess. The following data show the character of the rainfall in these areas.—

Area.	Rainfall.			
	Average actual, April 1902.	Average normal, April.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Madras South	1·04	2·22	−1·18	−53
„ East Coast North	1·59	0·85	+0·74	+87
„ South-Central	1·25	1·70	−0·45	−26
Malabar	1·83	3·35	−1·52	−45
Mysore	1·76	1·22	+0·54	+44
North Punjab	1·89	1·60	+0·29	+18
Central Provinces East	1·13	0·50	+0·63	+126

The rainfall of the month was unusually heavy in Bengal and Assam which, as in March, obtained more frequent and heavier falls than usual. The rainfall at several stations in Bengal was in fact larger in amount than has been previously recorded in the month of April.

The following examples show clearly the unusual character of the precipitation:—

Station.	Total rainfall in April 1902.	Highest total rainfall previously recorded in April.	Year in which recorded.
	Inches.	Inches.	
Barisal	21·01	6·91	1893
Dacca	14·00	9·37	1888
Chittagong	13·24	11·66	1892
Mymensingh	11·60	11·22	1884

The following gives comparative data for this area of increased rainfall:—

Division.	Rainfall.			
	Average actual, April 1902.	Average normal, April.	Variation of actual from normal, April 1902.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam (Surma)	20·14	13·42	+6·72	+50
„ (Hills)	12·83	8·00	+4·83	+60
„ (Brahmaputra)	11·28	8·09	+3·19	+39
Eastern Bengal	13·52	4·24	+9·28	+219
Deltaic „	5·88	2·31	+3·57	+155
Central „	3·71	1·41	+2·30	+163
North „	4·85	3·97	+0·88	+22
Bengal Hills	5·75	4·35	+1·40	+32

The rainfall of the month of May was less than an inch over the greater part of the Punjab and United Provinces, Bombay, Rajputana, Central India, Berar, the Central Provinces and the greater part of the Deccan. It averaged less than a tenth of an inch in Berar, Gujarat and Kathiawar and the central and western divisions of the United Provinces. It exceeded two inches in three areas, *viz.*, 1st Burma and Tenasserim, 2nd Bengal, Bihar and Assam and 3rd Southern India, including Malabar, Travancore, Coorg, South and South-Central Madras and Mysore.

The first area including Burma and Tenasserim received heavy rain from the cyclonic storm of the first week of the month. This storm formed on the 4th over the north of the Andaman sea and passed into Lower Burma on the 6th and Central Burma on the 7th. It gave very heavy downpours in Lower Burma, the most noteworthy being a fall of 12·48 inches at Wakema on the 6th. Frequent showers fell during the remainder of the month, more especially in Tenasserim and Lower Burma.

The rainfall of the month was unequally distributed over the province, being in moderate to large excess in Tenasserim, Lower and Central Burma and in slight to considerable defect in Upper Burma and Arakan.

The following gives data for the five divisions of the province:—

Division.	Rainfall.				Number of rainy days.	
	Average actual, May 1902.	Average normal, May.	Variation of actual from normal, May 1902.	Percentage variation from normal.	Average actual, May 1902.	Average normal, May.
	Inches.	Inches.	Inches.			
Tenasserim	29·20	23·02	+6·18	+27	21·8	18·7
Lower Burma Deltaic	16·23	12·07	+4·16	+34	15·3	14·7
Central Burma	8·85	6·79	+2·06	+30	9·9	9·4
Upper Burma	4·62	5·93	−1·31	−22	7·7	8·4
Arakan	9·08	12·49	−3·41	−27	10·1	12·0

Series of thunderstorms giving more or less heavy rain occurred almost daily throughout the month in the second area, including Bihar, Bengal and Assam. The total rainfall of the month was in moderate to considerable excess over the greater part of Bengal, but was in moderate defect in Assam.

The following gives data for the latter area:—

Division.	Rainfall.				Number of rainy days.	
	Average actual, May 1902.	Average normal, May.	Variation of actual from normal.	Percentage variation from normal.	Average actual May, 1902.	Average normal, May.
	Inches.	Inches.	Inches.			
Assam Surma	15·38	18·00	−2·62	−15	16·7	16·1
„ Hills	11·12	15·05	−3·93	−26	15·6	15·2
„ Brahmaputra	7·97	12·03	−4·06	−34	12·0	14·5

The rainfall of the month was unusually light in the Khasi and Jantia Hills, as is shown by the following data for Cheerapoonjee and Jowai:—

Station.	Rainfall.			
	Average actual, May 1902.	Average normal, May.	Variation of actual from normal, May 1902.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Cherrapoonjee	27·52	51·30	—23·78	—46
Jowai	12·09	26·18	—14·18	—54

The following gives comparative data for the various divisions of the Bengal Presidency:—

Division.	Rainfall.				Number of rainy days.	
	Average actual, May 1902.	Average normal, May.	Variation of actual from normal, May 1902.	Percentage variation from normal.	Average actual, May 1902.	Average normal, May.
	Inches.	Inches.	Inches.			
Eastern Bengal	13·08	10·45	+2·63	+25	13·8	10·9
Deltaic „	9·45	6·16	+3·29	+53	10·1	8·0
Central „	5·35	4·57	+0·78	+17	7·5	6·2
North „	11·71	10·65	+1·06	+10	12·0	11·5
Bengal Hills	7·80	8·45	—0·65	— 8	14·3	13·6
North Bihar	3·64	3·07	+0·57	+19	4·5	4·2
South „	0·83	1·42	—0·59	—42	1·9	2·1
Chota Nagpur	2·31	2·22	+0·09	+ 4	4·5	3·7
Orissa	3·22	3·74	—0·52	—14	6·4	5·1

The third area, *viz.*, Southern India, also obtained frequent thundershowers during the month. As there was some delay in the establishment of the monsoon, the Malabar coast districts did not receive the heavy rain in the last week of the month which usually ushers in the monsoon. The following gives data of rainfall in these areas:—

Area.	Rainfall.			
	Average actual, May 1902.	Average normal, May.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Malabar	4·32	7·08	—2·76	—39
Travancore	4·86			
Coorg	5·13			
Mysore	4·04	3·65	+0·39	+11
Madras South	2·04	1·71	+0·33	+19
„ South-Central	5·05	3·68	+1·37	+37

The chief features of the precipitation of the period were as follows:—

(1) Increased rainfall in Tenasserim, Lower and Central Burma, Cachar, Bengal, Orissa and North Bihar. The rainfall was large in amount over the greater part of the area and exceeded ten inches in seven out of the ten rainfall divisions. The following gives comparative data:—

Area.	Rainfall of period, March to May.				Number of rainy days, March to May.	
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1902.	Average normal.
	Inches.	Inches.	Inches.			
Tenasserim	32·36	27·83	+4·53	+16	27·1	25·2
Lower Burma Deltaic	16·49	14·08	+2·41	+17	15·7	17·5
Central „	9·00	7·76	+1·24	+16	10·2	11·1
Assam Surma	40·19	39·17	+1·02	+ 3	39·6	37·4
Eastern Bengal	28·38	17·00	+11·38	+67	29·1	18·9
Deltaic „	18·02	9·91	+8·11	+82	21·7	13·8
Central „	10·35	6·78	+3·57	+53	16·5	10·0
North „	20·49	15·88	+4·61	+29	25·1	18·5
Bihar North	5·94	4·26	+1·68	+39	9·2	6·3
Orissa	7·27	6·07	+1·20	+20	12·7	9·2

(2) The rainfall was practically normal in amount or in slight defect in South Bihar, Chota Nagpur, the United Provinces and the Punjab. The following gives a summary of the data:—

Area.	Rainfall of period, March to May.				Number of rainy days of period, March to May.	
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1902.	Average normal.
	Inches.	Inches.	Inch.			
South Bihar	1·73	2·04	—0·31	—15	3·7	3·5
Chota Nagpur	3·77	3·80	—0·03	—1	7·7	6·9
United Provinces of Agra and Oudh.	0·94	1·21	—0·27	—22	2·2	2·6
Punjab	2·08	2·34	—0·26	—11	5·1	4·6

(3) The deficiency was small in amount absolutely but large, relatively to the small average or normal amount of

the period, in the divisions for which data are given in the following table:—

Area.	Rainfall of period, March to May.				Number of rainy days of period, March to May.	
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1902.	Average normal.
	Inch.	Inches.	Inch.			
Rajputana	0·26	0·59	—0·33	—56	0·8	1·5
Central India	0·26	0·52	—0·26	—50	0·8	1·3
Central Provinces	0·74	1·40	—0·66	—47	1·9	3·1
Berar	0·36	0·98	—0·62	—63	0·9	2·2
Khandesh	0·39	0·83	—0·44	—53	0·8	1·6
Kathiawar and Cutch	0·09	0·29	—0·20	—69	0·3	0·6
Gujarat	0·04	0·25	—0·21	—84	0·1	0·5

(4) The rainfall was also more or less in defect in the divisions of the Peninsula, for which data are given below, and which receive occasional rain from thunder-showers giving totals averaging for the period from one to three inches:—

Area.	Rainfall of period, March to May.				Number of rainy days of period, March to May.	
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1902.	Average normal.
	Inches.	Inches.	Inches.			
Konkan	0·62	1·99	—1·37	—69	1·3	2·7
Bombay Deccan	1·71	3·10	—1·39	—45	3·3	5·9
Hyderabad	1·06	1·83	—0·77	—42	2·9	4·0
Madras Central	2·36	2·46	—0·10	—4	5·9	4·7
„ East Coast Central	0·77	1·91	—1·14	—60	1·6	2·7
„ „ „ South	2·51	3·39	—0·88	—26	4·1	4·6

(5) The total rainfall of the period varied irregularly in the southern half of the Peninsula, but was generally in considerable excess except in Malabar. The following gives data:—

Area.	Rainfall of period, March to May.				Number of rainy days of period, March to May.	
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual.	Average normal.
	Inches.	Inches.	Inches.			
Malabar	7·42	10·96	—3·54	—32	11·5	13·7
Travancore	11·07				18·9	
Coorg	10·89				19·3	
Mysore	5·98	5·18	+0·80	+15	10·3	8·8
Madras South	5·18	4·92	+0·26	+ 5	7·8	7·5
„ South-Central	7·01	5·91	+1·10	+19	11·1	9·3

(6) The chief features of the rainfall distribution of the period were (1) the excessive rainfall over a considerable portion of North-Eastern India, (2) the increased rainfall in Southern India, (3) the deficiency over the remainder of India, including nearly the whole of North-Western and Central India and the northern half of the Peninsula.

(7) The rainfall was abnormally heavy in certain districts of Bengal, in which the rainfall was more than 50 per cent. in excess. Data are given below:—

District.	Rainfall of period, March to May.			
	Avarage actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Midnapore	13·54	8·17	+ 5·37	+ 66
Hooghly	14·72	8·94	+ 5·78	+ 65
Howrah	14·23	7·93	+ 6·30	+ 79
24-Parganas	14·07	8·51	+ 5·56	+ 65
Calcutta	16·79	8·28	+ 8·51	+103
Murshidabad	12·29	7·68	+ 4·61	+ 60
Jessore	22·05	12·25	+ 9·80	+ 80
Khulna	18·13	10·56	+ 7·57	+ 72
Dacca	33·77	16·80	+16·97	+101
Faridpur	24·70	14·41	+10·29	+ 71
Backergunge	29·46	13·50	+15·96	+118
Noakhali	31·15	17·78	+13·37	+ 75

(8) The average rainfall of the period for the whole of the plains of India was 4·83 inches and was 0·33 inch or 7 per cent. in excess of the normal of the period.

III.—The south-west monsoon period, June to September.

June.—The Malabar and Konkan Coast districts obtained light to moderate thundershowers during the first six days of the month. The monsoon set in on the South Konkan Coast on the 7th and extended rapidly from the coast into the interior. Series of thundershowers occurred in Berar, the Central Provinces and Central India between the 8th and 15th. A storm formed on the 9th and 10th in front of the advancing monsoon current in the angle between the Konkan and Kathiawar Coasts. It advanced north-westwards parallel to the coast and passed into South Baluchistan on the afternoon of the 16th. The wave of the monsoon winds, which accompanied the storm, gave the first burst of monsoon rains to Kathiawar and Gujarat between the 12th and 16th and to Sind from the 15th to 18th. An important effect of the storm was to draw off a large volume of the monsoon current from the Konkan and Malabar Coasts, in consequence of which the rainfall in these areas, although general during the period from the 9th to the 16th, was not so heavy as is usually the case during the first burst of the monsoon. The dispersion of the storm was followed by the establishment of remarkable high pressure conditions in Western India and the neighbouring sea area and by a rapid decrease of air movement in the western half of the equatorial region and the east of the Arabian Sea. These conditions lasted from the 17th to the 29th, during which period the rainfall was unusually light on the West Coast and in the interior of the peninsula and occurred chiefly as local showers during thunderstorms. North-West India received moderately heavy rain between the 19th and the 25th from a strong influx of humid winds across the Sind and Kathiawar coasts accompanying much steeper baric gradients than usual. Large changes occurred in the east of the Arabian Sea in the last week of the month which resulted in the re-establishment of monsoon conditions on the Malabar and South Konkan Coasts.

Bengal obtained frequent showers during the first twelve days of the month. The advance of monsoon winds up the Bay began in the second week of the month. A storm formed in the east of the Bay off the Arakan Coast on the 11th and 12th, and advancing rapidly along a curved path lay over the head of the Bay on the morning of the 13th. It crossed the Bengal Coast during the day and passed into East Bengal, where it broke up before the morning of the 15th. Moderate to heavy rain commenced to fall in North and East Bengal on the 13th and continued during the next week. The Chittagong district obtained heavy downpours on the 14th and 15th and the Jalpaiguri and Cooch Behar districts between the 18th and 20th, falls ranging from 6 to 11 inches in 24 hours occurring at several stations. Moderate rain occurred in North Bihar from the 15th to the 18th, but the current failed to extend into the Gangetic Plain. The rainfall diminished rapidly in Bengal on the 21st and was light and local during the next six days. During this period rain in increasing amounts fell in Tenasserim, indicating a stronger set of the current than usual to that area. The abnormal conditions giving rise to this diversion of the current passed away on the 28th and 29th and heavy general rain re-commenced in Bengal on the 30th.

The following gives the dates of the commencement of the south-west monsoon rains of 1902 in different parts of India:—

Province or Division.	Date of commencement of the monsoon rains in 1902.
Malabar	8th June
South Konkan	7th ,,
North ,,	12th ,,
West Rajputana	19th ,,
East ,,	20th ,,
Bengal	13th ,,
Bihar	16th ,,
United Provinces West	20th ,,
Punjab	20th ,,

There was no heavy burst of rain during the month in the Central Provinces, Central India, Chota Nagpur and the east of the United Provinces, such as usually marks the commencement of the monsoon, the rainfall received in these areas in the second and fourth weeks being due to feeble monsoon influences.

The chief features of the monsoon currents during the month were:—

(1) The delay in the establishment of the Bombay current of nearly a week.

(2) The weakness of the Bombay current was shown partly by its failure to advance as a whole into the interior (*i.e.*, the Central Provinces and Central India) and partly by its retreat from the land area during the period from the 18th or 19th to the end of the month.

(3) The determination of the Bay current more largely than usual to Burma and its failure to advance up the Gangetic plain beyond Bihar.

The chief abnormal features of the rainfall distribution of the month were:—

(1) Slight to moderate deficiency over the whole of Burma, except Upper Burma, where the total precipitation of the month was 23 per cent. above the normal.

(2) Slight to moderate excess in East Bengal and the Assam plains and slight to large defect in the Assam hills and the remainder of Bengal. The deficiency was, relatively to the normal, least in the Bengal hills (2 per cent.) and greatest in Chota Nagpur (67 per cent.)

(3) Moderate to large defect in the United Provinces, Central India, East Rajputana, the Central Provinces,

Berar, Gujarat and Kathiawar. The following gives data for the rainfall divisions in those areas:—

Division.	Number of rainy days.		Rainfall.		
	Avrage actual, June 1902.	Variation of actual from normal, June 1902.	Average actual, June 1902.	Variation of actual from normal, June 1902.	Percentage variation from normal.
			Inches.	Inches.	
Orissa . . .	7·8	−2·6	5·15	−4·27	−45
Chota Nagpur . .	6·2	−4·4	3·08	−6·18	−67
Bihar (South) . .	4·1	−3·8	3·19	−3·77	−54
„ (North) . .	5·9	−3·3	5·47	−3·51	−39
United Provinces (East)	1·5	−4·5	0·77	−4·25	−85
Oudh (South) . .	2·0	−3·3	0·88	−3·98	−82
„ (North) . .	2·8	−3·5	1·70	−4·02	−70
United Provinces (Central).	1·8	−3·3	0·64	−3·79	−86
United Provinces (West).	4·5	+0·9	2·11	−0·56	−21
United Provinces (Submontane East).	3·2	−3·9	1·97	−4·59	−70
United Provinces (Submontane West).	4·1	−2·0	3·78	−1·93	−34
United Provinces Hills	6·4	−4·5	4·62	−4·18	−48
Khandesh . . .	4·4	−3·6	2·65	−3·05	−54
Berar . . .	3·3	−4·9	1·54	−4·13	−73
Central Provinces (West).	3·3	−5·4	1·34	−5·79	−81
Central Provinces (Central).	3·1	−5·9	1·41	−6·38	−82
Central Provinces (East).	3·6	−6·0	1·43	−7·33	−84
Gujarat . . .	3·2	−3·8	1·40	−5·46	−80
Kathiawar and Cutch .	1·8	−2·7	0·72	−3·49	−83
Central India . .	2·5	−4·4	1·09	−5·71	−84
Rajputana (East) .	3·2	−1·1	1·54	−1·27	−45
Central India West .					

(4) Slight to moderate excess over the greater part of the Punjab plains, Sind, West Rajputana and Baluchistan, in which areas the normal fall of the period is small, not exceeding three inches.

(5) Deficiency over the whole of the Peninsula, with the exception of Central Madras and the East Coast Central, where the falls were 26 and 33 per cent. above the respective normals. The deficiency was most marked in Malabar, where it averaged 15·21 inches or 43 per cent. and the Konkan, where it was 40 per cent.

July—Strong monsoon winds set in on the South Konkan and Malabar Coasts, on the 1st and 2nd and advancing rapidly into the interior were established over the Central Provinces, Central India and the Deccan by the 5th. A shallow depression formed between the Konkan and Kathiawar Coasts on the 5th and drifted northwards during the next sixty hours into Kathiawar, where it remained practically stationary until the 10th, when it filled up and disappeared. It gave a moderate burst of rain in Gujarat and Kathiawar. The Arabian Sea current, as judged by the amount of rainfall, was weak on the 11th and 12th, but strengthened rapidly on the 13th, and gave general and moderate to heavy rain in Orissa, the Central Provinces and Central India from the 13th to the 15th. The winds fell off on the West Coast on the 17th and following days and were below their normal strength during the remainder of the month. The rainfall due to the current was hence chiefly restricted to the coast districts, the Deccan and Central Provinces.

The rainfall increased in Bengal during the first week of the month as in the West Coast districts and extended quickly up the Gangetic Plain, so that on the 5th fairly general rain was falling over the whole of Northern and Central India and the Deccan.

The current in the Bay also strengthened considerably on the 11th and 12th and the interaction between the two currents initiated a storm at the head of the Bay on the 13th and 14th. It advanced west-north-westward across Chota Nagpur into the eastern districts of Central India and then recurving to north passed into Rohilkhand and the neighbouring districts where it broke up on the 19th. The storm gave a moderate to heavy burst of rain to the greater part of Northern and Central India from the 17th to the 19th. Fairly general rain continued in North-Eastern and Central India on the 20th and 21st. A small depression formed in the east of the United Provinces on the latter day and advancing very slowly along a curved path broke up at the foot of the Nepal Himalayas on the 24th. Although a feeble disturbance it gave general and moderately heavy rain to the greater part of Northern and Central India. A storm, the second of the month, began to form in Lower Bengal and the north-west of the Bay on the 27th. It advanced through Chota Nagpur on the 28th, the east of the United Provinces on the 29th, into Bundelkhand and the neighbouring districts on the 30th and 31st. It determined a moderate to heavy burst of rain to the whole of Extra Tropical India, east of the meridian of 74° E.

The preceding remarks indicate that the Bombay current was weak during the greater part of the month and hence the rainfall over the greater part of the area dependent upon it, including the whole of the Bombay Presidency, the western and central districts of the Central Provinces, West Rajputana and the greater part of the Punjab was more or less largely below the normal. The following gives data:—

Division.	Ranfall.			
	Average actual, July 1902.	Average normal, July.	Variation of actual from normal, July 1902.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Punjab South . . .	3·15	4·74	−1·59	−34
„ Central . . .	3·82	5·13	−1·31	−26

Division.	Rainfall. Average actual, July 1902.	Average normal, July.	Variation of actual from normal, July 1902.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Punjab Submontane	6·92	8·37	—1·45	—17
„ Hills	11·38	15·46	—4·08	—26
„ North	4·11	4·66	—0·55	—12
„ West	1·53	2·56	—1·03	—40
Rajputana West	1·52	3·88	—2·36	—61
Sind	0·24	2·40	—2·16	—90
Gujarat	12·28	16·46	—4·18	—25
Kathiawar and Cutch	4·31	10·68	—6·37	—60
Konkan	37·89	40·58	—2·69	— 7
Bombay Deccan	7·76	8·80	—1·04	—12
Khandesh	8·36	8·71	—0·35	— 4
Central Provinces West	10·79	13·38	—2·59	—19
„ „ Central	13·96	16·62	—2·66	—16

The rainfall was also in moderate defect over the whole of Madras excepting Malabar and the northern coast districts, but the normal rainfall is not large in that area, and the variations were not important.

The rainfall of the month was, on the other hand, more or less in excess in Burma, Bengal, the United Provinces, Central India, the South-East Punjab, East Rajputana, the east of the Central Provinces, Berar, Malabar, Mysore and the northern coast districts of Madras, the greater part of which areas receive their rainfall from the Bay current. The rainfall of the month was in slight defect in Assam. The following gives data for these areas of increased rainfall.

Area.	Rainfall. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Burma	32·63	27·05	+5·58	+21
Bengal	19·34	16·04	+3·30	+21
Orissa	19·52	11·99	+7·53	+63
Chota Nagpur	17·21	14·24	+2·97	+21
Bihar South	13·99	12·74	+1·25	+10
United Provinces of Agra and Oudh.	15·22	11·60	+3·62	+31
South-East Punjab	7·72	6·40	+1·32	+21
East Rajputana and Central India West.	11·02	8·08	+2·94	+36
Central Provinces East	16·76	16·20	+0·56	+3
Berar	10·87	9·35	+1·52	+16
Malabar	56·80	35·45	+21·35	+60
Mysore	7·54	6·44	+1·10	+17
Madras East Coast North	7·56	7·25	+0·31	+4

August.—Weather was showery over by far the greater part of the country at the beginning of the month, but an unfavourable change (due to a large decrease in the strength of the Bombay current) occurred on the 3rd, when a complete break set in over practically the whole of North-Western and Central India and the Deccan and held until the 18th or 19th. Burma, Bengal and Assam, on the other hand, obtained steady daily rain during this period and South India and the Circars very favourable showers.

The monsoon currents, more especially the Bombay current, strengthened after the 19th and gave fairly general and abundant rain during the remainder of the month. A series of three storms formed in rapid succession over the Bay during this short period and exercised an important influence on the distribution of rainfall.

The first storm of the series crossed the Ganjam Coast on the 19th and advanced through the Central Provinces, Central India and South Rajputana into Sind, where it filled up on the 24th. It gave a moderate burst of rain to the Central Provinces, Central India, Rajputana and Sind and an excessive downpour in Gujarat and Kathiawar.

The second storm of the series formed on the 22nd and 23rd and advanced by a somewhat more northerly course than its predecessor. It passed through Chota Nagpur, Central India and Central Rajputana and disappeared in West Rajputana on the 31st. It gave moderately heavy rain over the greater part of Northern and Central India and heavy cyclonic downpours in Gujarat.

The third storm of the series originated on the 29th and 30th, and was approaching the Orissa Coast on the 31st, on which day moderate rain was falling over the whole of Burma, North-East India and the Peninsula. These storms were, during their formation and earlier stages, maintained almost solely by the Bengal current, and in their later stages by the Arabian Sea current. As usually happens under such circumstances, the Bay current fluctuated considerably in strength during the period, being above the normal strength in the north of the Bay during the formation of each storm and weaker than usual after its passage inland. Hence the weather was exceedingly variable in North-East India during this period, intervals of fine weather alternating with periods of moderate rain.

The distribution of rainfall during the month was hence determined by the following factors:—

(1) The weakness of the currents during the first nineteen days, during the greater part of which period an almost complete break obtained over nearly the whole of North-Western and Central India and the Deccan. A similar prolonged break obtained in the first three weeks of August 1883.

(2) The abnormal pressure conditions which determined the Bay current more largely than usual to North Bengal and Assam during the first two weeks of the month.

(3) The prevalence of strongly-marked monsoon conditions between the 20th and the end of the month.

(4) The tracks and intensity of the two storms which marched rapidly across Northern India. A remarkable feature of these storms was the torrential downpours they gave in Gujarat and Kathiawar.

The rainfall of the month was more or less considerably in excess in the following areas:—

(1) North Bengal, Orissa, Bengal Hills, Assam (Brahmaputra and Hills) and Upper Burma. The excess was greatest in Assam Brahmaputra, where it averaged 22 per cent. of the normal. The following gives data:—

Area.	Rainfall.			
	Average actual, August 1902.	Average normal, August.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Upper Burma	8·21	7·28	+0·93	+13
Assam Brahmaputra	18·52	15·18	+3·34	+22
„ Hills	25·62	23·04	+2·58	+11
North Bengal	20·34	17·58	+2·76	+16
Bengal Hills	24·25	22·76	+1·49	+ 7
Orissa	12·64	12·21	+0·43	+ 4

(2) Gujarat, Kathiawar, Cutch and Sind. The excess in these areas was due solely to heavy cyclonic rainfall during the last ten days of the month and was most marked in Gujarat, in which it averaged 43 per cent.

The following gives data:—

Area.	Rainfall.			
	Average actual, August 1902.	Average normal, August.	Variation of actual, from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Gujarat	14·02	9·79	+4·23	+43
Kathiawar and Cutch	8·59	6·75	+1·84	+27
Sind	2·44	2·21	+0·23	+10

(3) The whole of Madras with the exception of Malabar and the central and southern districts. The excess in that area ranged from 21 per cent. in East Coast South to 51 per cent. in East Coast Central. The following table gives data:—

Area.	Rainfall.			
	Average actual, August 1902.	Average normal, August.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Madras South-Central	4·72	3·49	+1·23	+35
„ East Coast North	10·17	7·51	+2·66	+35
„ „ Central	5·23	3·47	+1·76	+51
„ „ South	6·05	4·99	+1·06	+21

The rainfall of the month was below the normal over the remainder of the country including the greater part of the Punjab, Rajputana, the United Provinces, Bihar and Chota Nagpur. The deficiency was slight to moderate in amount except in the divisions, for which data are given in the following table:—

Division.	Rainfall.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Oudh South	5·45	11·19	—5·74	—51
United Provinces Central	4·30	10·55	—6·25	—59
„ East	6·10	11·39	—5·29	—46
„ East Submontane	6·47	11·69	—5·22	—45
Punjab Submontane	4·53	8·25	—3·72	—45
„ Hills	9·17	16·35	—7·18	—44
Rajputana East and Central India West	4·28	7·43	—3·15	—42

The rainfall of the month was hence in serious defect in South Oudh and the central districts of the United Provinces, which obtained barely half their normal amounts.

September.—The general rainfall of India was in excess of the normal. Four cyclonic storms affected the weather over India during the month.

The first storm which was forming at the end of August in the north-west angle of the Bay advanced westwards to Gujarat and South Rajputana on the 4th and filled up in Sind on the 5th. It gave a heavy burst of rainfall in North Bombay, Central India, South-West Rajputana and the Central Provinces.

The second storm began to form in the north of the Bay on the 5th. It advanced slowly north-westwards into the central districts of the Gangetic Plain where it filled up on the 13th. It gave very heavy rain to the United Provinces and Bihar.

A shallow depression formed over Gujarat during a period of advance of strong monsoon winds across the West Coast on the 18th. Heavy rain fell in Gujarat, Kathiawar and South-West Rajputana from the 18th to the 20th or 21st.

The fourth depression or storm of the month was initiated in the north-west of the Bay on the 21st and 22nd. It advanced rapidly during the next three days in a north-north-westerly direction to North Bihar, where it filled up on the 26th. Orissa, Chota Nagpur, Bihar and Bengal received a heavy burst of rain. The Darjeeling district obtained an excessive downpour on the 27th, when the storm was filling up as is shown below :—

District.	Station.	Date.	Rainfall during 24 hours preceding 8 A.M. of date.
			Inches.
Darjeeling	Mongpoo	27th	14·87
	Darjeeling	,,	12·20
	Kalimpong	,,	11·68
	Kurseong	,,	11·45

The rainfall of the month was generally in slight to moderate excess in North-Eastern India and Burma, as is shown below :—

Area.	Rainfall. Average actual, September 1902.	Average normal, September.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Burma	17·97	16·34	+1·63	+10
Assam	15·87	13·64	+2·23	+16
Bengal	15·68	12·19	+3·49	+29
Bihar	13·31	8·98	+4·33	+48
Chota Nagpur	11·85	8·27	+3·58	+43
United Provinces (excepting the western district)	9·83	·85	+2·98	+44

It was normal or in slight defect in North-Western India, as is shown below :—

Area.	Rainfall. Average actual, September 1902.	Average normal, September.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inch.	
United Provinces West	3·42	4·31	—0·89	—21
,, ,, West Submontane	6·52	6·91	—0·39	—6
Punjab	2·27	2·41	—0·14	—6
Rajputana West	1·96	2·05	—0·09	—4

It was in large excess in North Bombay, and in moderate excess in Central India and East Rajputana. The following gives data :—

Area.	Rainfall. Average actual, September 1902.	Average normal, September.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Gujarat	12·87	6·61	+6·26	+95
Kathiawar and Cutch	8·08	4·41	+3·67	+83
Sind	3·19	0·47	+2·72	+579
Central India East	7·92	6·02	+1·90	+32
Rajputana East, Central India West	4·96	4·03	+0·93	+23

The rainfall was in slight to moderate defect in Berar, the Bombay Deccan and the eastern and western divisions of the Central Provinces, as is shown below :—

Area.	Rainfall. Average actual, September 1902.	Average normal, September.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Berar	4·01	5·94	—1·93	—32
Bombay Deccan	4·93	5·90	—0·97	—16
Central Provinces West	6·73	8·63	—1·90	—22
,, East	6·91	7·75	—0·84	—11

It was in large excess on the West Coast, as is shown below:—

Area.	Rainfall.			
	Average actual, September 1902.	Average normal, September.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Konkan	24·22	13·50	+10·72	+79
Malabar	24·04	9·30	+14·74	+158

It varied slightly from the normal over the remainder of the Peninsula. The following gives data:—

Area.	Rainfall.			
	Average actual, September 1902.	Averag normal, September.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Khandesh	6·91	6·59	+0·32	+5
Mysore	5·37	4·82	+0·55	+11
Madras South-Central . .	3·00	4·63	—1·63	—35
„ East Coast North . .	7·92	7·59	+0·33	+4
„ Central . . .	6·53	5·30	+1·23	+23
„ East Coast Central . .	5·68	4·43	+1·25	+28
„ „ South . .	5·57	5·34	+0·23	+4
„ South	1·70	2·15	—0·45	—21

The following are the chief features of the distribution of the rainfall of the period.

(1) The total rainfall of the south-west monsoon period was in moderate defect in Tenasserim and Lower Burma, as is shown below:—

Division.	Rainfall of period.							
	June to September.				June to October.			
	Average actual, 1902.	Average normal.	Variation of actual, from normal.	Percentage variation from normal.	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Tenasserim . .	149·54	155·13	—5·59	—4	153·98	164·62	—10·64	—6
Lower Burma .	74·69	82·38	—7·69	—9	79·81	88·61	—8·80	—10

(2) It was in excess, on the whole, in Bengal and Orissa, but was very irregularly distributed. The following gives data:—

Division.	Rainfall of period.							
	June to September.				June to October.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Eastern Bengal .	75·91	64·73	+11·18	+17	80·12	70·60	+9·52	+13
Deltaic „ .	43·11	44·44	—1·33	—3	44·78	48·96	—4·18	—9
Central „ .	44·42	44·50	—0·08	0	46·26	48·03	—1·77	—4
North „ .	91·92	77·86	+14·06	+18	95·21	82·54	+12·67	+15
Bengal Hills . .	117·43	89·33	+28·10	+31	121·17	93·21	+27·96	+30
Orissa . . .	44·10	43·69	+0·41	+1	45·29	40·57	—4·28	—9

(3) It was more or less in defect in Bihar, Chota Nagpur, the United Provinces and Punjab, areas usually chiefly dependent upon the Bay current. This was in part due to the determination of the Bay current to Bengal and Burma in the first half of the monsoon period and in part to the cyclonic storms of the second half withdrawing rain from these regions to the areas covered by the storms. The following gives data:—

Division.	Rainfall of period.							
	June to September.				June to October.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Bihar South . .	35·76	38·74	—2·98	—8	36·44	41·24	—4·80	—12
„ North . .	43·86	45·26	—1·40	—3	45·30	47·97	—2·67	—6
Chota Nagpur .	40·47	41·90	—1·43	—3	41·01	44·71	—3·70	—8
United Provinces East.	35·66	35·00	+0·66	+2	35·96	37·39	—1·43	—4
South Oudh . .	29·89	33·47	—3·58	—11	29·97	35·13	—5·16	—15
North „ . .	36·08	37·07	—0·99	—3	36·93	38·86	—1·93	—5
United Provinces Central.	27·04	31·51	—4·47	—14	27·14	32·57	—5·43	—17

Division.	RAINFALL OF PERIOD. June to September. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	June to October. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
United Provinces West.	22·83	22·24	+0·59	+3	23·04	22·65	+0·39	+2
United Provinces East Submontane.	36·73	39·25	—2·52	—6	37·65	42·19	—4·54	—11
United Provinces West Submontane	37·19	41·63	—4·44	—11	38·02	42·38	—4·36	—10
United Provinces Hills.	46·96	51·91	—4·95	—10	48·05	53·26	—·21	—10
South-East Punjab	18·20	19·04	—0·84	—4	18·53	19·27	—0·74	—4
South „	10·07	12·90	—2·83	—22	10·28	13·07	—2·79	—21
Central „	12·63	13·45	—0·82	—6	13·00	13·71	—0·71	—5
Punjab Submontane	16·96	23·00	—6·04	—26	17·43	23·32	—5·89	—25
„ Hills	29·72	42·66	—12·94	—30	30·64	43·40	—12·76	—29
North Punjab	12·81	12·79	+0·02	0	14·20	13·21	+0·99	+7
West „	5·80	6·17	—0·37	—6	5·97	6·25	—0·28	—4

(4) The rainfall was locally normal in Gujarat and in slight defect in Kathiawar, which received moderate to heavy rain late in the season from three cyclonic storms. The following gives comparative data:—

Division.	RAINFALL OF PERIOD. June to September. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	June to October. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Gujarat	40·57	39·72	+0·85	+2	40·68	40·76	—0·08	0
Kathiawar and Cutch	21·70	26·05	—4·35	—17	21·82	26·64	—4·82	—18

(5) The rainfall of the period was more or less considerably in defect over the greater part of the area dependent on the Bombay current, including Rajputana, Central India, Konkan, Berar, the Central Provinces, the Bombay Deccan and Hyderabad. Comparative data for these areas are given below:—

Division.	RAINFALL OF PERIOD. June to September. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	June to October. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage Variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Rajputana	15·09	16·50	—1·41	—9	15·35	16·63	—1·28	—8
Central India	32·45	34·68	—2·23	—6	33·24	35·56	—2·32	—7
Central Provinces East.	36·93	46·52	—9·59	—21	37·32	48·56	—11·24	—23
Central Provinces Central.	33·38	46·24	—12·86	—28	34·05	47·91	—13·86	—29
Central Provinces West.	28·00	39·73	—11·73	—30	29·44	41·51	—12·07	—29
Berar	23·23	27·88	—4·65	—17	25·20	29·61	—4·41	—15
Konkan	98·40	105·50	—7·10	—7	102·18	110·02	—7·84	—7
Bombay Deccan	21·62	26·64	—5·02	—19	25·92	31·06	—5·14	—17
Hyderabad North	24·38	30·00	—5·62	—19	26·72	32·59	5·87	—18
„ South	19·29	23·16	—3·87	—17	22·34	26·12	—3·78	—14

(6) The southern half of the Peninsula received more frequent rain than usual, as is the usual rule when the Bombay current gives much less rain than the normal over the northern half of its field of extension. The following gives data:—

Division.	RAINFALL OF PERIOD. June to September. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.	June to October. Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Malabar	116·46	100·61	+15·85	+16	126·95	109·95	+17·00	+15
Madras Central	14·89	14·81	+0·08	+1	21·15	19·65	+1·50	+8
Madras South Central.	10·84	11·87	—1·03	—9	19·96	18·01	+1·95	+11
Madras East Coast North.	28·43	27·54	+0·89	+3	36·90	34·57	+2·33	+7
Madras East Coast Central.	14·77	11·82	+2·95	+25	30·45	20·50	+9·95	+49
Madras East Coast South.	15·15	14·91	+0·24	+2	26·97	23·17	+3·80	+16
Madras South	4·91	5·70	—0·79	—14	18·15	12·51	+5·64	+45

(7) The rainfall of the period, June to October, averaged 36·45 inches for the whole of India and was 3 per cent. below the normal.

IV The retreating south-west monsoon period.—The rainfall of the first week of the month of October was in chief part determined by a storm which

formed in the north of the Bay on the 1st and 2nd. It advanced across the East Bengal Coast on the evening of the 3rd and broke up in East Bengal on the 4th. It was a storm of only slight intensity. Moderate rain fell in Burma, Bengal and Assam during the period of the storm and the following three days when the Bay current retreated finally from Bengal and Assam, and the dry season commenced in that area.

Very shallow depressions of the cold weather type from the Persian area affected the weather in Upper India on the 5th and 6th, the 14th, the 18th to the 20th, and the 25th and 26th. These feeble disturbances gave light showers in Upper India and light to moderate snow in the Kashmir, Gilgit and Punjab Himalayas.

The weather in the Arabian Sea was unusually disturbed. Two cyclonic storms of considerable intensity formed in that area and passed north-westwards towards the Arabian Coast. The first formed on the 12th and 13th in about Lat. 14° N and Long. 67° E and advanced along a north-west or west-north-west track towards the coast of Arabia near the Kuria Muria Islands which it crossed on the 17th. This storm gave disturbed weather with daily rain in the south and west of the Peninsula from the 12th to the 15th.

The second storm formed on the 27th and 28th in about Lat. 11° N and Long. 64° E and advanced in a north-westerly direction to the north-west of the Arabian Sea and apparently filled up near the south-east coast of Arabia in the vicinity of the Kuria Muria Islands. It gave little or no rain to the south of the Peninsula.

The south-west monsoon current in the Bay recurved about the middle of the month and gave frequent rain to the Coromandel Coast districts. A storm began to form in the south-west of the Bay on the 27th. It marched in a west-north-west direction to the Madras Coast and the centre crossed the coast to the north of Madras on the 28th. It gave a very heavy burst of rain over the southern part of the Peninsula. Falls exceeding nine inches in 24 hours were registered at several stations.

The average actual rainfall of the month was *nil* in Sind, and 0·25 inch or less in South Oudh, the central and western divisions of the United Provinces, the southern and western divisions of the Punjab, Gujarat, Kathiawar, Cutch, Baluchistan and Western Rajputana.

The rainfall of the month in Upper India, although small in amount, was in marked excess. The following gives data:—

Division.	Rainfall.			
	Average actual, October 1902.	Average normal, October.	Variation of actual from normal, October 1902.	Percentage variation from normal.
	Inches.	Inch.	Inch.	
North Punjab	1·39	0·42	+0·97	+231
West „	0·17	0·08	+0·09	+113
Baluchistan Hills	0·17	0·06	+0·11	+183
Rajputana East, Central India West	0·46	0·20	+0·26	+130

The rainfall was in considerable to large defect in North-Eastern India and Burma and the rains terminated a week to three weeks earlier than usual. The following gives variation data of the rainfall of the month:—

Division.	Rainfall.			
	Average actual, October 1902.	Average normal, October.	Variation of actual from normal, October 1902.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Tenasserim	4·44	9·49	−5·05	−53
Lower Burma Deltaic	5·12	6·23	−1·11	−18
Central Burma	3·02	4·58	−1·56	−34
Upper „	3·46	4·44	−0·98	−22
Arakan	5·23	8·50	−3·27	−38
Deltaic Bengal	1·67	4·52	−2·85	−63
Orissa	1·19	5·88	−4·69	−80
Chota Nagpur	0·54	2·81	−2·27	−81
South Bihar	0·68	2·50	−1·82	−73
United Provinces East	0·30	2·39	−2·09	−87
South Oudh	0·08	1·66	−1·58	−95
North „	0·85	1·79	−0·94	−53
United Provinces Central	0·10	1·06	−0·96	−91
United Provinces East Sub-montane.	0·92	2·94	−2·02	−69

The rainfall of the month was less than usual over the northern half of the Peninsula, as shown below:—

Division.	Rainfall.			
	Avarage actual, October 1902.	Average normal, October.	Variation of actual from normal, October 1902.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Central Provinces West.	1·44	1·78	−0·34	−19
„ Central.	0·67	1·67	−1·00	−60
„ East	0·39	2·04	−1·65	−81
Konkan	3·78	4·52	−0·74	−16
Bombay Deccan	4·30	4·42	−0·12	−3
Khandesh	1·47	1·92	−0·45	−23
Gujarat	0·11	1·04	−0·93	−89
Kathiawar and Cutch	0·12	0·59	−0·47	−80

It was on the contrary more or less considerably above the normal in the southern half of Peninsula, chiefly due to the heavy burst of rain which accompanied and followed

the last storm of the month in the Bay. The following gives data :—

Division.	Rainfall. Average actual, October 1902.	Average normal, October.	Variation of actual from normal, October 1902.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Mysore	8·83	5·50	+ 3·33	+ 61
Malabar	10·49	9·34	+ 1·15	+ 12
Madras (South-Central)	9·12	6·14	+ 2·98	+ 49
East Coast North	8·47	7·03	+ 1·44	+ 20
Madras Central	6·26	4·84	+ 1·42	+ 29
East Coast Central	15·68	8·68	+ 7·00	+ 81
„ South	11·82	8·26	+ 3·56	+ 43
Madras „	13·24	6·81	+ 6·43	+ 94

November.—Weather was less disturbed in the Bay than usual and no storms formed in that area during the month. The retreating southwest monsoon winds were, however, steadily determined to the Coromandel Coast districts during the month and gave frequent rain to the coast districts and the interior of Southern India. The rainfall was most general from the 1st to the 10th, the 17th to the 22nd and the 27th to the 29th.

Weather was more disturbed than usual in the Persian area. Four depressions formed during the month and passed eastwards through Baluchistan into Upper India. These storms gave snow on the higher elevations of Afghanistan, Baluchistan, Chitral and Kashmir and light showers in the North Punjab. Light to moderate rain was received during the month over Baluchistan and the northwest and north mountain regions. Over a large part of the plains of Northern India the month was practically rainless.

The following gives variation data for the larger province of Northern and Central India.

Area.	Rainfall. Average actual, November 1902.	Average normal, November.	Variation of actual from normal.	Percentage variation from normal.
	Inch.	Inch.	Inch.	
Baluchistan	0·22	0·52	—0·30	—58
Punjab	0·09	0·27	— 0·18	— 67
Sind	0	0·09	—0·09	—100
Rajputana	0	0·19	—0·19	—100
Central India	0·25	0·23	+0·02	+ 9
United Provinces of Agra and Oudh	0·03	0·13	—0·10	—77
Bihar	0·04	0·16	—0·12	—75
Chota Nagpur	0·31	0·37	—0·06	—16
Bengal	0·20	0·59	—0·39	—66

The rainfall was also light over Orissa, the Central Provinces and the Madras Deccan, as is shown below :—

Area.	Rainfall. Average actual, November 1902.	Average normal, November.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Orissa	0·22	1·47	—1·25	—85
Central Provinces East	0·10	0·49	—0·39	—80
„ Central	1·25	0·40	+0·85	+213
„ West	1·06	0·42	+0·64	+152
Madras Deccan	1·26	2·16	—0·90	—42

Over the remainder of the Peninsula the rainfall varied somewhat irregularly from the normal. It ranged from 4 inches in the Bombay Deccan to 20 inches in the South Coromandel Coast districts. The following gives comparative data for the rainfall divisions included in this area of moderate to heavy rainfall :—

Area.	Rainfall. Average actual, November 1902.	Average normal, November.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Malabar	4·42	3·58	+0·84	+23
Konkan	1·28	0·87	+0·41	+47
Bombay Deccan	1·61	1·16	+0·45	+39
Khandesh	1·34	0·48	+0·86	+179
Gujarat	0·07	0·18	—0·11	—61
Kathiawar and Cutch	0	0·33	—0·33	—100
Mysore	1·70	2·56	—0·86	—34
Hyderabad North	1·86	0·89	+0·97	+109
„ South	1·40	1·12	+0·28	+25
Madras South Central	3·41	3·77	—0·36	—10
„ East Coast North	1·66	2·71	—1·05	—39
„ South	9·68	6·27	+3·41	+54
„ East Coast Central	10·53	8·12	+2·41	+30
„ „ South	9·12	9·20	—0·08	—1

December.—The weather in the Persian area and North-Western India during the first half of the month resembled that of November. Two depressions formed in Persia and advanced eastwards into North-Western India. They gave cloud but no rain in the plains of North-Western India. The higher elevations of Kashmir, Chitral,

and Gilgit obtained light to moderate snow. Weather was disturbed and abnormal in the Arabian Sea. A storm formed in the south to the west of the Laccadives on the 6th and 7th and drifted very slowly northeastwards to the neighbourhood of the Kathiawar coast on the 12th. It filled up on the 12th and 13th at sea. The west of the Peninsula received fairly general rain during this period. A very feeble disturbance affected the south-west of the Bay from the 14th to the 16th. Although it failed to develop into a cyclonic storm the depression gave moderate rain to Southern India and showers in the Deccan.

The south-west monsoon humid winds withdrew finally from the Bay at the end of the third week of the month.

There was actually or practically no rain during the month over the Punjab, Sind, Rajputana, the United Provinces, Bihar, Bengal (except Deltaic), Assam and Arakan.

The following gives a brief summary of the rainfall data of these provinces for the month:—

Area.	Rainfall.			
	Average actual, December 1902.	Average normal, December.	Variation of actual from normal.	Percentage variation from normal.
	Inch.	Inch.	Inch.	
Punjab	0	0·44	—0·44	—100
Sind	0	0·11	—0·11	—100
Rajputana	0·04	0·28	—0·24	—86
United Provinces of Agra and Oudh.	0	0·32	—0·32	—100
Bihar	0	0·11	—0·11	—100
Bengal (except Deltaic)	0·03	0·16	—0·13	—81
Assam	0·05	0·41	—0·36	—88
Arakan	0·05	0·41	—0·36	—88

The rainfall of the month was very largely above the normal over Lower and Central Burma, Deltaic Bengal and the greater part of the Peninsula. The total ranged from half an inch at Bhavnagar Para, Khandwa, Chanda, Chaibassa and Barisal to over 17 inches at Cuddalore. The following table gives comparative data:—

Area.	Rainfall.		
	Average actual, December 1902.	Average normal, December.	Variation of actual from normal.
	Inch.	Inch.	Inch.
Tenasserim	0·83	0·11	+0·72
Lower Burma Deltaic	0·67	0·08	+0·59
Central Burma	0·52	0·17	+0·35
Deltaic Bengal	0·36	0·14	+0·22
Orissa	1·70	0·23	+1·47
Gujarat	0·51	0·04	+0·47
Kathiawar and Cutch	0·33	0·06	+0·27
Berar	1·55	0·28	+1·27
Central Provinces	0·52	0 29	+0·23
Konkan	2·50	0·08	+2·42
Bombay Deccan	4·07	0·24	+3·83
Khandesh	1·30	0·22	+1·08
Mysore	3·23	0·59	+2·64
Malabar	4·86	0·63	+4·23
Madras South-Central	4·29	1·28	+3·01
„ East Coast North	1·03	0·59	+0·44
„ „ Central	6·97	2·07	+4·90
„ „ South	9·02	4·97	+4·05
„ Central	0·76	0·43	+0·33
„ South	5·57	3·55	+2·02

The following is a summary of the more important features of the rainfall of the period:—

(1) The rainfall of the period, November and December was small in amount and in general defect over the whole of Burma and Northern and Central India, as is shown by the following data:—

Area.	Rainfall of period, November and December.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inch.	Inches.	Inch.	
Baluchistan	0·50	1·49	—0·99	—66
Punjab	0·09	0·71	—0·62	—87
Sind	0	0·20	—0·20	—100
Kathiawar and Cutch	0·33	0·39	—0·06	—15
Rajputana	0·04	0·47	—0·43	—91
Central India	0·47	0·64	—0·17	—27
United Provinces of Agra and Oudh.	0·03	0·45	—0·42	—93
Bihar	0·04	0·27	—0·23	—85
Chota Nagpur	0·45	0·59	—0·14	—24
Bengal	0·31	0·74	—0·43	—58
Assam	0·45	1·30	—0·85	—65
Burma	0·80	1·74	—0·94	—54

(2) The rainfall of the period was more or less in excess over nearly the whole of the Peninsula by amounts increasing southwards. The following gives comparative data for the rainfall divisions of the area :—

Area.	Rainfall of period, November and December.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Berar	2·47	0·85	+1·62	+191
Central Provinces East	0·36	0·70	—0·34	—49
„ „ Central	1·57	0·67	+0·90	+134
„ „ West	2·05	0·81	+1·24	+153
Konkan	3·78	0·95	+2·83	+298
Bombay Deccan	5·68	1·40	+4·28	+306
Khandesh	2·64	0·70	+1·94	+277
Gujarat	0·58	0·22	+0·36	+164
Mysore	4·93	3·15	+1·78	+57
Malabar	9·28	4·21	+5·07	+120
Madras South Central	7·70	5·05	+2·65	+52
„ East Coast Central	17·50	10·19	+7·31	+72
„ „ South	18·14	14·17	+3·97	+28
„ South	15·25	9·82	+5·43	+55
Hyderabad North	3·19	1·30	+1·89	+145
„ South	1·73	1·27	+0·46	+36

The year.—The rainfall of the year for the whole of India as determined by the method employed by Mr. Blanford (and which gives the normal annual rainfall as 41·09 inches) averaged 2·05 inches below the normal.

The average rainfall of the Indian area was largely below the normal in the cold weather, considerably above in the retreating south-west monsoon, in slight excess in the hot weather and in slight defect in the south-west monsoon period.

The following gives comparative data for the whole of India (excluding Burma and hill divisions) based on the arithmetical means of the actuals and normals for 46 rainfall divisions (irrespective of extent of area):—

Period.	Rainfall.			
	Average actual of year 1902.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Cold weather	0·40	1·01	—0·61	—60
Hot weather	4·83	4·50	+0·33	+7
South-west monsoon	36·45	37·65	—1·20	—3
Retreating south-west monsoon	2·34	1·72	+0·62	+36
Whole year	44·02	44·89	—0·87	—2

The rainfall was practically normal in amount (*i.e.*, the variation from the normal was less than 10 per cent.) in 18 out of the 51 rainfall districts (omitting Burma) into which India is divided :—

Division.	Rainfall.			
	Average actual of year 1902.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam (Surma)	130·38	133·62	—3·24	—2
„ Hills	133·57	135·35	—1·78	—1
„ Brahmaputra	98·86	91·42	+7·44	+8
Deltaic Bengal	63·65	61·19	+2·46	+4
Central „	56·83	56·53	+0·30	+1
Orissa	54·72	58·37	—3·65	—6
Chota Nagpur	45·82	50·41	—4·59	—9
North Bihar	51·25	53·55	—2·30	—4
United Provinces East	37·13	39·83	—2·70	—7
North Oudh	38·54	42·09	—3·55	—8
United Provinces West	23·27	25·10	—1·83	—7
Konkan	106·59	113·14	—6·55	—6
Bombay Deccan	33·39	35·74	—2·35	—7
Gujarat	41·46	41·38	+0·08	0
Central India East	35·14	37·59	—2·45	—7
Rajputana East and Central India West.	22·84	24·52	—1·68	—7
Madras East Coast North	42·86	42·02	+0·84	+2
„ Central	25·68	24·82	+0·86	+3

These districts included the greater part of North-Eastern India and the Gangetic Plain, North Bombay, Central India and East Rajputana.

The rainfall was in excess by 10 per cent. or over in the ten rainfall districts for which data are given below :—

Division.	Rainfall.			
	Average actual of year 1902.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Eastern Bengal	108·62	90·29	+18·33	+20
North „	115·82	99·74	+16·08	+16
Bengal Hills	138·32	109·78	+28·54	+26
Malabar	143·94	125·50	+18·44	+15
Madras South Central	35·86	29·44	+6·42	+22
Mysore	39·22	34·54	+4·68	+14
Sind	9·18	6·63	+2·55	+38
Madras East Coast Central	48·77	33·17	+15·60	+47
„ „ South	50·82	41·63	+9·19	+22
„ South	44·01	28·65	+15·36	+54

The rainfall of the year was hence in considerable to large excess in North and East Bengal, Mysore and the central and southern districts of Madras.

The rainfall of the year was between 10 and 25 per cent. in defect in 16 divisions, for which comparative data are given in the following table:—

Province.	Rainfall.			
	Average actual of year 1902.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
South Bihar	38·52	45·02	−6·50	−14
South Oudh	30·52	37·64	−7·12	−19
United Provinces, Central	27·92	34·76	−6·84	−20
„ East Submontane	39·84	45·38	−5·54	−12
„ West Submontane	40·03	47·59	−7·56	−16
„ Hills	53·53	63·79	−10·26	−16
South-East Punjab	19·68	22·69	−3·01	−13
Central „	14·83	18·61	−3·78	−20
North „	19·25	22·60	−3·35	−15
West „	7·25	9·18	−1·93	−21
Hyderabad North	30·49	35·66	−5·17	−14
„ South	25·63	29·79	−4·16	−14
Khandesh	27·68	31·01	−3·33	−11
Berar	28·16	31·96	−3·80	−12
Central Provinces East	39·37	51·83	−12·46	−24
Kathiawar and Cutch	22·29	27·47	−5·18	−19

The rainfall of the year was in slight to moderate defect, chiefly in the Punjab, the central and western districts of the United Provinces, Khandesh, Berar and Hyderabad.

The rainfall of the year was more than 25 per cent. below the normal in the following divisions:—

Province.	Rainfall.			
	Average actual of year 1902.	Average normal of year.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
South Punjab	11·62	15·97	−4·35	−27
Punjab Submontane	20·02	29·76	−9·74	−33
„ Hills	40·80	60·29	−19·49	−32
Central Provinces West	31·94	44·05	−12·11	−27
„ Central	36·50	50·85	−14·35	−28
Baluchistan Hills	3·25	8·43	−5·18	−61
West Rajputana	8·62	11·78	−3·16	−27

The rainfall of the year was in considerable defect in five plains divisions only. The deficiency was greatest in the submontane districts of the Punjab where it averaged 33 per cent. The rainfall of the year was 28 per cent. in defect in the central districts of the Central Provinces, and 27 per cent. in defect in West Rajputana, the South Punjab and the western division of the Central Provinces. Baluchistan received a total average rainfall for the year of 3·25 inches, 5·18 inches, or 61 per cent. less than the normal annual precipitation of that area.

The rainfall of the year was less than three inches in amount at thirty-seven rain-gauge stations in North-Western India and Baluchistan.

The following gives data for these stations:—

Area.	Station.	Total annual rainfall.
		Inches.
Punjab	Jampur	1·47
	Rajanpur	1·65
	Lodhran	1·92
	Alipur	2·04
	Kabirwala	2·10
Kashmir	Leh	2·94
Sind	Jacobabad	2·10
	Mehar	2·70
Baluchistan	Nushki	0·64
	Killa Saifulla	0·69
	Khost	1·35
	Nuttal	1·40
	Hindubagh	1·44
	Temple Dera	1·46
	Mangi	1·51
	Mach (Railway station)	1·67
	Mushkof	1·68
	Spezand	1·79
	Lindsay	1·90
	Gulistan	1·96
	Abegum	1·97
	Mach (Hospital)	1·98
	Beleli	2·01
	Kolepur	2·06
	Saranan	2.20
	Hirok	2·23
	Sanzal	2·22
	Syed Hamid	2·24
	Chaman	2·45
	Sariab	2·50
	Dirgi	2·64
	Yarookarez	2·70
	Killa Abdulla	2·75
	Pishin	2·84
	Khanai	2·85
	Bostan	2·88
	Peshi	2·96

The minimum rainfall of the year was hence ·64 inch at Nushki in *Baluchistan*. In the plains of India the minimum rainfall of the year was 1·47 inches at Jampur in the Punjab.

Total rainfalls for the year exceeding two hundred inches were received at fifteen stations:—

Province.	Station.	Rainfall. Actual of year 1902.	Rainfall. Normal of year.
		Inches.	Inches.
Burma	Launglon	232·91	233·24
	Thayetchaung	226·00	220·27
	Bilin	207·59	188·32
	Sandoway	206·76	212·60
	Taungup	204·12	192·51
	Yebyu	204·01	?
Assam	Cherra Poonjee (Police Station).	464·32	461·19
	Wah Maulien	372·38*	?
	Lalakhal	251·49	264·84
	Sunamganj	216·80	209·68
	Marnai	207·58	139·88
	Nemotha	206·84*	202·35
	Bijni	201·43	131·01
Bengal	Buxa	243·14	207·97
Bombay	Malcolmpeth	224·22	267·94

* Total for the period 16th May to 30th November.

The heaviest rainfall of the year was, as usual, registered at Cherra Poonjee, where a total fall of 464·32 inches was recorded. The total fall of the year at the rain-gauge station of Wah Maulien recently opened in the Khasi Hills was nearly as large, *viz.*, 372·38 inches.

The following gives the heaviest falls in 24 hours exceeding 15 inches recorded during the year:—

Province.	District.	Station.	Date and month.	Rainfall during 24 hours preceding 8 A.M. of date.
				Inches.
Assam	Khasi and Jaintia Hills.	Cherra Poonjee	27th April 1902.	15·40
	Ditto	Ditto	18th June „	17·37
	Ditto	Ditto	21st „ „	23·11
	Ditto	Wah Maulien	24th „ „	16·73
Bombay	Surat	Rander	17th July „	22·42
Assam	Khasi and Jaintia Hills.	Cherra Poonjee	10th August „	28·69
	Ditto	Mauphlang	10th „ „	15·27
	Ditto	Cherra Poonjee	11th „ „	22·71
	Ditto	Wah Maulien	11th „ „	21·20
	Ditto	Laitlyngkot	11th „ „	15·66
Bengal	Birbhum	Murari	10th Sept. 1902.	16·60
Madras	Godavari	Coringa	30th Oct. „	15·65
	Nellore	Dugarazpatnam	15th Dec. „	16·40

The following gives a statement of the annual variations of the mean rainfall of India (excluding Burma) during the past 28 years:—

Year.	Number of Divisions. Fall excessive.	Number of Divisions. Fall normal.	Number of Divisions. Fall deficient.	Rainfall. Average actual.	Rainfall. Average normal.	Rainfall. Variation from normal.	Rainfall. Percentage variation.
				Inches.	Inches.	Inches.	
1875	16		8	43·47	41·09	+2·38	+6
1876	6		18	36·60	41·09	—4·49	—11
1877	10		14	36·81	41·09	—4·28	—10
1878	17	1	6	47·43	41·09	+6·34	+15
1879	16	2	6	42·78	41·09	+1·69	+4
1880	13	1	10	39·53	41·09	—1·56	—4
1881	15		9	41·19	41·09	+0·10	0
1882	17	1	6	43·73	41·09	+2·64	+6
1883	11	1	12	40·97	41·09	—0·12	0
1884	12		10	42·82	41·09	+1·73	+4
1885	15		7	42·14	41·09	+1·05	+3
1886	14		8	44·11	41·09	+3·02	+7
1887	11		11	43·51	41·09	+2·42	+6
1888	10		12	39·53	41·09	—1·54	—4
1889	15		8	43·50	41·09	+2·41	+6
1890	14	1	8	41·77	41·09	+0·68	+2
1891	6		17	37·55	41·09	—3·54	—9
1892	15		8	46·18	41·09	+5·09	+12
1893	22		1	50·16	41·09	+9·07	+22
1894	17		6	47·56	41·09	+6·47	+16
1895	5		17	38·90	41·09	—2·19	—7
1896	7	2	14	36·26	41·09	—4·83	—12
1897	10	2	11	40·94	41·09	—0·15	0
1898	10	3	10	41·52	41·09	+0·43	+1
1899	6		17	29·95	41·09	—11·14	—27
1900	10		13	40·52	41·09	—0·57	—1
1901	5		18	36·96	41·09	—4·13	—10
1902	8		15	39·04	41·09	—2·05	—5

Concluding summary.

I.—The cold weather period, January and February, 1902.—The following table gives mean variation data of the more important meteorological elements for the cold weather period, January and February 1902:—

Meteorological Province.	Cold weather period, January and February 1902.								
	Variation from normal of mean monthly pressure.	Variation from normal of mean maximum temperature.	Variation from normal of mean minimum temperature.	Variation from normal of mean aqueous vapour Pressure.	Variation from normal of mean relative humidity.	Variation from normal of mean cloud amount.	Total variation from normal of average actual rainfall.	Percentage variation from normal of rainfall.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	+·042	−0·8	+0·6	+·008	− 2	+0·8	+0·40	+51
Burma Inland	+·062	−0·5	+0·4				−0·06	−15
Assam	+·045	+1·8	−0·5				−1·67	−69
Bengal and Orissa	+·038	+1·6	−0·2	−·017	− 5	−0·3	−1·28	−96
Gangetic Plain and Chota Nagpur.	+·038	+2·8	−0·4	−·013	− 6	−0·4	−1·00	−76
Upper Sub-Himalayas	+·041	+5·5	−0·2	−·066	−17	−2·3	−2·98	−98
North-West Frontier Province, Indus Valley and North-West Rajputana.	+·032	+6·1	−1·2	−·022	−11	−1·6	−1·02	−99
East Rajputana, Central India and Gujarat.	+·035	+3·4	+1·2	−·049	−12	−1·1	−0·16	−36
Deccan	+·036	+2·1	+1·2	−·036	− 7	+0·4	−0·27	−54
West Coast	+·029	+0·9	+1·1	+·006	− 3	+0·2	+0·02	+ 5
South India	+·038	−0·6	−0·3	+·005	+ 1	+0·3	+1·47	+196

The mean pressure for the period was in excess by nearly equal amounts over the whole Indian area, ranging between ·029″ on the West Coast, ·041″ in the Upper Sub-Himalayas and ·045″ in Assam. It was below the normal in January and in large excess in February. Pressure, in the latter month, averaged ·088″ above the normal, a larger excess than has been previously registered for any month in India.

The excess of pressure was associated with higher temperature than usual over the greater part of India. It was most marked in Upper India and decreased in amount southwards and eastwards. The day maximum temperature averaged 6·1° above the normal in the Indus Valley and North-West Rajputana, 5·5° in the Upper Sub-Himalayan area, 3·4° in East Rajputana, Gujarat and Central India, and 2·8° in the Gangetic Plain and Chota Nagpur. The mean day temperature was in slight defect (less than 1°) in Burma and South India. The night or minimum temperature was practically normal over the greater part of the country. The mean temperature of the month was higher than usual over the whole of India with the exception of South India. The excess was most marked in Upper India, where it was 2½° on the mean of the period. As usual under the conditions of the period, the excess was chiefly due to very high day temperature.

General excess of temperature usually accompanies lower pressure than usual. Hence the increased pressure in February was the difference between a large excess due to some general action and a slight to moderate deficiency due to increased temperature. The actual excess of pressure in that month due to some general action probably averaged at least ·110″ for the Indian area.

The amount of vapour present in the air (as measured by its pressure) was normal in Lower Burma, Southern India and the West Coast and was more or less below it in the interior of India. The deficiency was large and marked in the Upper Sub-Himalayan region averaging ·066″ or 23 per. cent. of the normal, in East Rajputana, Central India and Gujarat averaging ·049″ or 19 per. cent. of the normal and in the Deccan averaging ·036″ or 11 per cent. of the normal. The combination of increased temperature and decreased vapour pressure gave rise to abnormal dryness of the air and low relative humidity percentage values. The mean relative humidity of the period was below the normal over the whole area except South India. The increased dryness of the air was most pronounced in the Upper Sub-Himalayas where the mean relative humidity of the period was 17 below the normal, East Rajputana, Central India and Gujarat where it was 12 below the normal and the Indus Valley and North-West Rajputana where it was 11 below the normal.

The amount of cloud was slightly larger than usual in Burma and the Peninsula, but was more or less considerably below the normal in Northern India, more especially in the Upper Sub-Himalayas, where it was 2·3 in defect (the normal value being 3·8), and the Indus Valley and North-West Rajputana where it was 1·6 in defect (the normal being 3·6).

The precipitation of the period was very scanty over nearly the whole of India. It was practically *nil* in North-Western India which usually receives moderate rain in this period and also in Bengal and Orissa. The Gangetic Plain and Central India received light rain from the two feeble disturbances which originated in Gujarat. The only regions which received moderate rain in excess of the period were the lower Burma coast area and South India.

The abnormal features of the cold weather period were hence very broadly marked. They were as follows:—

(1) Large excess of pressure, nearly uniform in amount over the whole Indian land and sea area.
(2) Moderate to large excess of temperature over the greater part of the area, most marked in Upper India.
(3) Large deficiency of aqueous vapour in the lower atmospheric strata in the interior.
(4) Abnormal dryness of the air, more especially in North-Western India.
(5) Very great deficiency of rainfall, more especially in Upper India and Bengal, where the precipitation was practically *nil*.

(6) The most noteworthy feature of the period was the almost entire absence of cold weather storms of the usual type—storms which form in Persia and advance eastwards across Baluchistan and Northern India.

The data of the following table show that the mean temperature of the cold weather period in North-Western India was more largely in excess than in the corresponding periods of the past twenty-six years, and that the relative humidity, cloud amount and rainfall were more largely below the normal than in any year of the same period. It is hence in these respects unique. The most noteworthy feature, however, is that it is the only year since 1881 in which a considerable increase of temperature accompanied a considerable excess of pressure.

The following table gives comparative data for the cold weather periods of the years 1876 to 1902 for the area including the Punjab, Rajputana, the United Provinces and Bihar:—

Cold weather period of year.	Variation from normal in North-Western India and Bihar of				
	Pressure.	Temperature.	Humidity.	Cloud.	Rainfall.
	"	°			Inches.
1876	—·044	+0·5	?	—0·7	—1·08
1877	+·062	—1·7	+13	+1·0	+2·45
1878	+·034	—0·2	+ 4	+0·5	—0·04
1879	—·014	+1·8	— 8	—0·8	—0·96
1880	—·029	—0·2	0	—0·1	—0·19
1881	+·027	+2·2	— 4	—0·5	—0·91
1882	+·004	+0·7	+ 1	—0·1	—0·11
1883	—·001	—1·0	0	+0·2	+0·78
1884	+·014	+1·0	— 2	—0·3	—0·89
1885	+·019	—1·6	+ 1	+0·3	+0·14
1886	+·005	—0·6	+ 1	+0·3	—0·28
1887	—·040	—0·3	— 2	+0·1	—0·15
1888	+·025	—1·0	+ 3	+0·8	+0·23
1889	+·020	+1·4	+ 4	+0·8	+1·74
1890	—·029	+2·6	— 8	—0·5	—1·04
1891	+·025	—0·5	+ 6	+0·4	+0·70
1892	—·031	+2·5	— 2	—0·2	—0·37
1893	—·008	—4·2	+11	+1·4	+2·04
1894	+·002	+0·6	+10	+1·3	+0·92
1895	+·004	+0·8	+ 5	—0·2	+0·43
1896	—·013	+2·0	— 3	—0·5	—0·72
1897	—·018	+1·2	— 2	—0·4	—0·12
1898	—·037	+1·1	— 1	—1·0	+1·22
1899	—·024	—0·5	— 6	—0·9	—0·51
1900	—·012	+0·7	— 4	+0·7	+0·59
1901	+·027	—1·5	+ 6	+0·5	+1·38
1902	+·024	+2·7	—14	—1·6	—1·13

The only year closely resembling 1902 is 1881, but the variations, more especially of humidity, cloud and rainfall, are greater in the former than the latter year.

The previous remarks have given the abnormal conditions and features of the meteorology of the period over the plains of India.

The following gives similar data for stations in Persia, Baluchistan, Central Asia and the Himalayas:—

Station.	Variation from normal during cold weather period, January and February.							
	Mean 8 A.M. pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean 8 A.M. aqueous vapour pressure.	Mean 8 A.M. humidity.	Mean 8 A.M. cloud amount.	Rainfall.	Percentage variation of rainfall.
	"	°	°	"			Inches.	
Aden	+·027	—1·3	—0·3	—·034	— 2	—2·0	—0·55	—90
Baghdad	?	+5·2	+3·2	—·026	— 8	+0·3	—2·98	—84
Bushire	+·055	+2·8	+1·8	—·001	— 5	?	—4·39	—80
Quetta	+·090	+8·3	—1·8	—·026	— 7	—1·4	—4·13	—97
Kashgar		+5·1	+0·2	?	?	—2·7	—0·36	—92
Leh	+·128	+5·6	+3·6	+·026	+10	—2·1	—0·65	—98
Murree	+·082	+7·3	+4·4	—·015	—22	—2·0	—7·35	—98
Simla	+·085	+6·2	+5·2	—·028	—18	—1·9	—4·82	—84
Chakrata	+·060	+6·3	+3·8	—·019	—16	—1·9	—6·46	—81
Ranikhet	+·063	+3·2	+2·7	—·023	—13	—2·1	—4·22	—85

The data of the preceding table are very interesting. They indicate that over the Western Himalayan region Baluchistan, Afghanistan, Persia, Asiatic Turkey and Arabia the following abnormal conditions prevailed:—

(1) Pressure was more or less considerably above the normal, the excess increasing with elevation, being greatest at Leh in Thibet at an elevation of 11,000 feet.

(2) Temperature was in large excess, more especially the maximum day temperature. The excess was even more pronounced at the hill stations in Upper India than over the adjacent plains, due chiefly to large excess of the night temperature—a peculiar feature of the hill stations. It was almost as large in amount in Persia and Asiatic Turkey as in North-Western India.

(3) The pressure of the aqueous vapour present in the air, and hence also the amount per cubic foot of air, was less than the normal at all stations, except perhaps Leh.

(4) The relative humidity of the air was locally below the normal, more especially at the hill stations in North-Western India. The deficiency was absolutely greatest at Murree.

(5) Cloud was in large defect by nearly equal amounts, averaging 2·0 for the period at all the stations given in the table with the exception of Baghdad, where cloud was in slight excess. The average normal amount for the period for these stations is 4·7.

(6) The precipitation of the period was in very large defect, both absolutely and relatively to the normal for the period. For example, Murree and Leh each received only 2 per cent. or $\frac{1}{50}$th of the normal fall, Quetta 3 per cent., Kashgar 8 per cent., Aden 10 per cent. and Simla and Ranikhet about one-sixth of their normal fall.

A comparison of these abnormal features with those already given for the plains of Northern and Central India shows that they were identical in character. In other words, the abnormal meteorological features of the period extended over a much larger area than the Indian region and were as pronounced in Persia and Central Asia as in India.

The most remarkable feature of the period in the Persian and Indian regions was the absence of well defined cold weather storms during the whole period. Two or three very feeble depressions, perhaps more correctly described as low pressure waves, passed across these areas from west to east. They gave some cloud in Baluchistan and North-Western India and some light showers in the hills, but were otherwise of little or no importance.

As the cold weather precipitation of the period in North-Western India and the Western Himalayas occurs chiefly, if not solely, in connection with these storms, the precipitation during the cold weather of 1902 was abnormally small in Baluchistan and the mountain districts of Upper India and was, in fact, the smallest on record. Similarly the data received from high level stations show that the snowfall of the period was extremely small in amount at those elevations. Data have already been given illustrating these features. The following gives a summary of data for North-Western India:—

Year.	Variation from normal of rainfall in cold weather period.				
	Kilba.	Kailang.	Murree.	Simla.	North-West India.
	Inches.	Inches.	Inches.	Inches.	Inches.
1876				— 2·02	—1·06
1877			— 1·53	+ 6·03	+2·46
1878			+ 4·78	— 1·70	+2·73
1879			— 8·20	— 1·03	—1·87
1880			— 4·07	— 5·79	—1·22
1881			+ 3·59	+ 3·87	+0·04
1882			+ 2·24	— 0·23	—1·18
1883	— 3·25		+ 3·24	— 0·30	+0·27
1884	— 1·48	—0·07	+11·46	— 4·85	—1·66
1885	+14·75	+4·25	+11·46	+ 0·80	—0·26
1886	+20·27	+1·38	+ 9·82	+ 3·02	+2·60
1887	+ 0·83	—1·96	— 3·65	+ 0·29	—1·19
1888	— 4·57	—3·23	+ 3·05	+ 1·21	—0·65
1889	+ 4·31	+1·06	+10·73	+ 4·15	+1·35
1890	— 0·24	—3·05	— 5·58	— 3·59	—1·89
1891	+ 6·86	+4·80	+22·47	+ 2·98	+2·01
1892	—11·24	—4·98	— 1·57	— 5·04	—1·39
1893	— 0·61	—0·63	+10·05	+ 8·88	+2·59
1894	+ 3·48	+3·43	+ 6·76	+10·44	+1·59
1895	— 4·27	—0·29	+ 0·17	+ 2·38	+0·86
1896	— 4·13	—0·70	+ 0·65	+ 1·24	—0·71
1897	— 1·70	+0·87	— 2·24	+ 2·16	—0·51
1898	— 5·08	—2·24	+ 0·14	+ 1·27	+1·50
1899	— 4·16	—2·33	— 4·07	— 1·73	—1·06
1900	+ 1·31	—0·71	+ 0·22	+ 1·11	+0·56
1901	+ 1·93	+1·42	+ 0·47	+10·52	+1·79
1902	— 6·84	—4·45	— 7·35	— 3·83	—1·52

An examination of the previous data shows first of all that the precipitation of the cold weather period was almost as largely below the normal in each of the years 1876, 1879, 1880, 1882, 1884, 1887, 1890, 1892 and 1899 as in 1902.

It also shows that there has been a general deficiency in the winter precipitation in the Western Himalayas, more especially over the interior ranges during the past eight years, *viz.*, from the year 1895 (1901 excepted). This has, moreover, been only part of a more general feature, *viz.*, a persistent deficiency in the rainfall of both the south-west and north-east monsoons or of the wet as well as of the dry seasons.

The following data, for a series of stations in the Simla hills at increasing distances from the plains, give a striking example of this feature:—

Station.	Variation from normal of annual rainfall.								
	Annual normal rainfall.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Kasauli	58·86	+ 3·88	— 1·25	+ 6·39	— 5·78	—29·50	+18·97	+12·14	— 9·38
Barauli	45·81	— 2·69	— 6·89	— 2·84	— 0·12	—17·36	+ 4·53	+42·08	—15·08
Simla	65·14	+ 1·44	—15·68	—14·16	—12·78	—23·42	— 5·82	+ 7·05	—24·78
Kotkhai	44·77	— 7·77	—18·54	+12·59	—16·92	—26·83	— 6·07	— 4·67	—17·66
Kotgarh	46·00	—16·84	—16·83	— 7·11	—13·72	—20·97	+ 2·22	— 5·61	—17·71
Kilba	40·17	—14·41	—17·17	— 5·41	—21·65	—23·83	— 3·28	—13·73	—10·29

Station.	Variation from normal of rainfall during cold weather period, January and February.								
	Normal rainfall of period, January and February.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Kasauli	4·45	+ 1·70	— 1·10	+ 0·14	+ 1·36	— 2·21	+ 0·33	+ 9·90	— 3·70
Barauli	4·45	+ 0·05	— 0·58	+ 0·54	+ 0·64	— 1·71	— 1·37	+10·10	— 4·13
Simla	4·72	+ 2·38	+ 1·24	+ 2·16	+ 1·27	— 1·72	+ 1·11	+10·52	— 2·33
Kotkhai	5·25	— 0·26	+ 0·97	+ 5·29	— 0·13	— 2·63	+ 1·98	+ 6·82	— 4·35
Kotgarh	4·50	— 2·27	— 0·23	— 0·58	+ 0·52	— 2·88	+ 0·70	+ 0·50	— 2·85
Kilba	10·03	— 4·27	— 4·13	— 0·70	— 5·08	— 4·16	+ 1·31	+ 1·93	— 6·84

The following table gives comparative data for the same period of all stations in the areas to the north and west of Upper India, at which meteorological observatories are maintained by the Government of India :—

Station.	Rainfall of period, January and February. Variation from normal.								
	Normal of period.	1892.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Baghdad.	3·55		—1·34	+ 1·52	—0·49	—1·08	—3·15	—1·96	—3·02	—2·98
Teheran.	2·11		—0·20	0	+1·32	—1·85	+0·23	—0·57	—1·70	+0·78
Ispahan.	0·43		—0·43	+0·02	+0·25	+0·35	+0·14	—0·01	—0·43	+0·38
Bushire.	5·47	—2·65	—2·24	—2·81	+0·15	—4·14	—2·56	+3·00	—4·25	—4·39
Jask.	1·84		+0·93	—0·71	—0·17	—1·84	—1·36	+1·40	—1·24	—1·17
Quetta.	4·24	—2·61	—2·72	—0·71	+0·04	—2·73	—2·21	+0·39	—2·05	—4·13
Kashgar.	0·39		—0·33	—0·39	+0·19	+0·01	—0·39	+0·17	—0·27	—0·36
Kalat.	2·05		—0·85		+0·76	—1·33	—0·31	—0·24	+0·78	—2·03
Chaman.	3·05		—2·01	—0·93	+1·52	—2·48	+0·02	+2·49	—0·57	—2·73
Kabul.	2·22		?	—2·22	+4·58	—1·89	—2·22	—2·22	—2·22	—1·61
Mean of ten stations.	2·54		—1·02	—0·69	+0·82	—1·70	—1·18	+0·25	—1·50	—1·82

The horizontal columns of means show that the average rainfall of these ten stations in Central and Western Asia was below the normal in six out of the eight cold weather periods 1895—1902. The deficiency was largest in 1902 averaging 1·82 inches or 72 per cent of the normal mean rainfall of the period for these stations. The data for the year 1892 are very limited, but appear to indicate that the precipitation was almost as largely in defect in the areas represented by these stations as in 1902.

The following table gives corresponding data for the same series of years, for the six months period from October to March :—

Station.	Rainfall of period, October to March. Variation from normal.									
	Normal of period.	1891-92.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches	Inches	Inches.
Baghdad.	7·75		+0·52	+3·89	—3·75	—1·90	—4·97	—2·79	—3·80	—5·16
Teheran.	7·34		+1·00	—0·13	+1·38	—0·28	—2·94	—2·34	—2·62	—0·64
Ispahan.	3·09		+1·37	+1·03	—1·55	—0·08	—1·47	—0·06	—0·62	+0·23
Bushire.	11·58	—3·90	+11·95	—7·01	—3·83	—4·64	—4·10	+2·63	—2·48	—8·75
Jask.	4·30		+2·79	—0·68	—2·06	—1·86	—2·91	+2·51	+0·19	—3·63
Quetta.	7·29	—4·37	—2·53	+1·52	—0·67	—0·98	—2·71	—0·80	+1·96	—6·64
Kashgar.	0·86		—0·60	—0·29	—0·18	—0·01	—0·86	+0·25	—0·74	—0·83
Kalat.	3·92		—0·47	?	+0·08	+0·09	—1·51	—0·24	+5·92	—3·76
Chaman.	5·58		?	—1·38	+0·98	—1·95	—1·16	+1·19	+2·50	—5·08
Kabul.	8·45		?	+2·55	+2·88	—4·02	—4·30	—2·75	—3·17	—5·41
Mean of ten Stations.	6·02		+1·75	—0·06	—0·67	—1·56	—2·69	—0·24	—0·29	—3·97

A noteworthy feature of cold weather periods of scanty rain and snowfall in North-Western India is excess of pressure at the level of the hill stations. This excess usually begins to be exhibited in October at the end of the rains, and if very pronounced, is a reliable indication of the general character of the precipitation of the succeeding cold weather season. The excess is measured by the difference between the pressure variation at the hill stations and nearest plains stations and is termed the vertical pressure anomaly for the pair of stations in question.

The following table gives vertical pressure anomalies for the cold weather period of 1901-1902 :—

Pair of stations.	Vertical pressure anomaly.						
	September 1901.	October 1901.	November 1901.	December 1901.	January 1902.	February 1902.	Mean of period, November, 1901, to February, 1902
	"	"	"	"	"	"	"
Leh and Lahore	—·005	+·082	+·066	+·009	+·115	+·065	+·064
Quetta and Jacobabad	—·008	+·043	+·028	+·017	+·086	+·060	+·048
Murree and Peshawar	—·002	+·054	+·060	+·028	+·067	+·058	+·053
Simla and Ludhiana	+·002	+·045	+·026	—·001	+·047	+·034	+·027
Chakrata and Roorkee	—·006	+·049	+·007?	+·004	+·019	+·012?	+·011
Ranikhet and Bareilly	—·008	+·040	+·034	+·011	+·027	+·016	+·022
Mount Abu and Deesa	—·030	—·009	+·005	+·017	+·019	+·026	+·017

The table shows that the vertical pressure anomalies for pairs of stations in North-Western India were considerable to large in amount for October and November 1901 and were very large in January and February 1902, more especially for the first three pairs of stations.

The following gives a comparison of the vertical pressure anomalies of the same pairs of stations for 1901-02 and the preceding eight cold weather periods :—

Pair of stations.	Mean vertical pressure anomaly of the cold weather period, November to February.							
	1901-1902.	1900-1901.	1899-1900.	1898-1899.	1897-1898.	1896-1897.	1895-1896.	1894-1895.	1893 1894.
	"	"	"	"	"	"	"	"	"
Leh and Lahore	+·064	—·006	+·008	+·038	+·040	+·013	+·041	+·009	—·004
Quetta and Jacobabad.	+·048	—·008	+·019	+·027	+·050	—·007	+·019	+·001	+·006
Murree and Peshawar.	+·053	+·009	+·040	—·012?	+·041	+·006	+·022	—·006	?
Simla and Ludhiana.	+·027	—·018	+·012	+·005	+·019	—·003	+·012	—·017	—·015
Chakrata and Roorkee.	+·011	—·007	+·022	+·019	+·028	+·023	+·030	+·010	—·010
Ranikhet and Bareilly.	+·022	+·007	+·023	+·011	+·018	+·021	+·025	+·003	+·011?
Mount Abu and Deesa.	+·017	—·026	—·008	—·006	—·002	—·008	+·005	—·007	+·003

The vertical pressure anomalies were hence in the cold weather periods of 1896 and 1898 very similar in character and amount to those of 1902.

II.—The hot weather period, March to May 1902.—The following table gives the mean variations of the more important meteorological elements in the eleven meteorological provinces of India for the hot weather period, March to May 1902:—

Meteorological Province.	Hot weather period, March to May 1902.							
	Variation from normal of mean pressure.	Variation from normal of mean maximum temperature.	Variation from normal of mean minimum temperature.	Variation from normal of mean aqueous vapour pressure.	Variation from normal of mean relative humidity.	Variation from normal of mean cloud amount.	Total variation of average actual rainfall of period from normal.	Percentage variation from normal of rainfall.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	+·006	−0·3	+1·1	+·009	−1	0	+4·46	+24
Burma Inland . .	+·024	+0·2	+0·3				−1·05	−14
Assam	+·013	−1·0	−0·4				+0·48	+ 2
Bengal and Orissa .	+0·06	−1·8	−0·1	+·011	0	+0·7	+5·83	+50
Gangetic Plain and Chota Nagpur.	−·007	+0·4	+1·0	+·060	+ 4	+0·4	+0·26	+10
Upper Sub-Himalayas.	−·012	+0·8	+1·6	−·035	− 6	+0·2	0	0
North-West Frontier Province, Indus Valley and North-West Rajputana.	−·019	+2·4	+2·4	+·065	+ 2	0	−0·69	−53
East Rajputana, Central India and Gujarat.	−·010	+1·8	+2·6	−·008	− 3	−0·3	−0·27	−48
Deccan . . .	−·004	+1·7	+1·8	−·025	− 4	−0·5	−1·20	−65
West Coast . .	+·004	+1·1	+1·3	+·042	0	−1·1	−4·21	−55
South India . .	+·004	+0·7	+0·9	+·027	+ 1	+0·4	−0·27	− 7

The following is a brief statement of the more important abnormal features of the meteorology of the Indian area during the period:—

A.—The variations of the pressure conditions from the normal were in general small to moderate in amount, but were remarkably persistent. The following states the more noteworthy:—

(1) The mean pressure of the Indian land area was in slight defect in March, normal in April, and in slight excess in May. The extraordinary conditions which prevailed in February passed away completely in March in India and also, so far as can be judged from the data, more or less completely, in Central Asia and in Europe. During the two months, April and May, the mean pressure of the Indian land area slightly increased relatively to the normal, but was on the mean of the whole period ·001″ in defect.

(2) Pressure was on the mean of March and April in slight or considerable local excess in Burma, Assam, Bengal and Bihar, the excess being greatest in Upper Burma and Assam. Pressure was, on the other hand, generally normal in these areas in May. On the mean of the whole period, pressure was in slight local excess in these areas, the excess averaging nearly ·020″ in Assam and Burma Inland, where it was greatest.

(3) Pressure was in March and April in slight to moderate defect in the United Provinces, the Punjab, Rajputana, Central India, Central Provinces, Sind and Gujarat, and in May in the same areas except in the central districts of the United Provinces, Gujarat, the west of the Central Provinces and Central India. In May pressure was in slightly greater defect in the Punjab than in April. In Gujarat and Central India a change occurred in May, giving that area a slight to moderate local excess of pressure.

(4) Pressure was in March and April in very slight defect in parts of the West Coast, the Bombay Deccan, and in very slight excess over South India, including the Madras coast and Madras Deccan. These variations were generally reversed in May.

(5) Pressure was in relative excess at the hill stations of Upper India as compared with the neighbouring plains stations. The relative excess was in small amount in April and moderate in May, averaging ·023″. This was solely a temperature effect.

B.—The variations of the temperature conditions of the period from the normal were also very persistent throughout the period. The following gives the more noteworthy:—

(1) In March temperature was almost everywhere above the normal, the excess being greatest in Sind and Rajputana where the mean temperature of the month averaged about 5° above the normal. Temperature fell below the normal in April over North-Eastern India which received more frequent and heavier rain than usual. It continued above the normal over the remainder of India, and was 3° above it on the mean of the month in Sind—the area of greatest excess of temperature. Temperature was also below the normal over the greater part of Burma and Bengal in May, due to more frequent rain than usual, but continued above the normal over the remainder of India. The excess was largest in amount in the Deccan, Berar, the Central Provinces and Sind where it averaged nearly 2°.

(2) Temperature was hence persistently above the normal throughout the period in North-Western and Central India and the Deccan. The excess was, on the mean of the period, greatest in the Indus Valley, Rajputana and Central India, for which it averaged 2½° and the Deccan where it was nearly 2°.

(3) Temperature was, during nearly the whole period, in persistent defect in North-Eastern India including Assam, Bengal and Orissa. The deficiency, on the mean of the period, was approximately 1°.

(4) As is the usual rule when temperature is persistently above the normal in the hot weather in India, the night temperature was as largely in excess as the day temperature. There was hence a general excess of temperature with little or no increase of the diurnal range of temperature.

C.—The air movement, more especially the influx of local sea winds in the coast districts, was, as might be expected from the thermal conditions, stronger than usual. This is clearly shown by the following data for stations in the coast districts at which the exposure of the anemometer is most satisfactory :—

Station.	Percentage variation of velocity of air movement in			Mean of period.
	March 1902.	April 1902.	May 1902.	
Akola	+ 6	— 1	+ 8	+ 4
Belgaum	— 2	+ 5	+ 4	+ 2
Mount Abu	+ 9	+17	+31	+19
Kurrachee	—16	— 5	+ 6	— 5
Bhuj	+14	+36	+46	+32
Rajkot	— 1	+20	+11	+10
Saugor Island	+12	+21	+ 9	+14
Calcutta	+ 2	0	—13	— 4 ?
Burdwan	+12	+ 8	—18	+ 1
Chittagong	— 1	+ 7	— 1	+ 2
Dacca	+23	+12	+ 3	+13

D.—In consequence of the increased influx of local sea winds during the period, the amount of aqueous vapour present in the lowest atmospheric strata was larger than usual. The increase was on the whole most marked in the areas under the influence of the sea winds from the Arabian Sea including the West Coast districts, the Indus Valley and North-West Rajputuna and also in the Gangetic Plain. The air was drier than usual over the greater part of the interior due to increased temperature, but the variations of the relative humidity from the normal were, on the mean of the period, generally small. They were on the whole greatest in the Upper Sub-Himalayas where the relative humidity averaged 6 below the normal on the mean of the period.

E.—The variations in the amount of cloud were generally small in amount but were persistent and followed closely the variations of temperature and humidity. There was somewhat more cloud than usual in North-Eastern India and the Gangetic Plain and less in North-Western and Central India and the greater part of the Peninsula. The only area in which the deficiency was moderate in amount was the West Coast where the cloud averaged 1·1 below the normal. This deficiency was local, due to the delay in the establishment of monsoon conditions on the Malabar coast.

F.—The precipitation of the period was more or less in excess in Burma and North-Eastern India, the excess being largish in absolute amount in Lower Burma where it averaged 4·46 inches (or 24 per cent. of the normal), and Bengal and Orissa where it averaged 5·83 inches (or 50 per cent.) The excess was very marked in East and South Bengal which received nearly double the normal fall of the period. The rainfall was small in amount and in largish relative defect over the greater part of the interior of Peninsula and over North-Western and Central India. It was, on the other hand, largely below the normal in the West Coast districts (chiefly Malabar) by amounts averaging 4·21 inches or 55 per cent. of the normal.

The preceding has given the more striking abnormal features of the meteorological conditions over the plains of India. The following data show that similar conditions obtained in the mountain and plateau districts or areas to the north and north-west of Upper India :—

Station.	Variation from normal of period, March to May.						
	Pressure	Maximum temperature.	Minimum temperature.	Aqueous vapour pressure.	Relative humidity.	Cloud amount.	Rainfall.
	"	°	°	"			Inches.
Baghdad	?	+3·8	+3·5	+·005	— 3	+1·5	+0·84
Teheran	?	+3·4	+1·7	?	?	+0·6	—1·54
Ispahan	?	+1·6	+2·6	—·019	—10	—0·2	+0·85
Bushire	—·009	+3·1	+3·4	+·066	+ 3	+0·9	—0·83
Jask	—·053 ?	+2·7	+2·8	—·003	— 4	—0·2	—1·18
Quetta	+·012	+3·7	+0·7	—·002	— 5	+0·2	—2·11
Kashgar	?	—0·8	—0·8	?	?	—2·7	—0·05
Kalat	?	+2·9	—2·8	?	?	?	—0·73
Chaman	—·014	+2·9	+1·5	+·013	— 7	+0·8	—1·47
Kabul	?	+2·6	—1·5	?	?	+1·9	—2·65

The preceding data indicate that in Baluchistan, Afghanistan, Persia and Asiatic Turkey the chief meteorological conditions of the period were practically identical with those obtaining in India. Pressure was in slight defect, temperature (both by day and night) was in moderate to considerable excess, the air was much drier than usual and the precipitation more or less below the normal.

Experience has shown that hot weather seasons following cold weather seasons of scanty rainfall are usually characterized by the following features :—

(1) Persistent excess of temperature over North-Western and Central India.

(2) Relative excess of pressure at the level of the hill stations in Northern India, indicated by large positive vertical anomalies.

(3) Tendency towards greater disturbance in North-Western India in March (and occasionally in April) chiefly exhibited by the occurrence of greater amount of rain and snow than usual in the Western Himalayan area.

(4) Increased rainfall in North-Eastern India, more especially in April and May.

These features were all present in a more or less marked degree in the hot weather of 1902.

It has already been noted in the cold weather section that the years 1879, 1880, 1892, 1896, 1897, and 1899 were all characterized by scanty rainfall and absence of cold weather storms. The meteorology of these

years in the hot weather is compared with that of 1902 in the following paragraphs :—

(1) In each of these years, as in 1902, the hot weather conditions were more intense than usual, and temperature was in excess on the average of the whole Indian area and most largely in excess, as a rule, over North Western and Central India and the north Deccan.

The following gives comparative data for these years :—

Year.	Variation from normal of mean temperature.					
	Hot weather period, March to May.			May.		
	Extra-Tropical India.	Tropical India.	Punjab, Sind and Rajputana.	Extra-Tropical India.	Tropical India.	Punjab, Sind and Rajputana.
	°	°	°	°	°	°
1879 .	+2·1	+0·2	+1·1	+2·1	−1·0	+2·5
1880 .	+2·2	+0·6	+4·1	+0·4	+0·4	+2·0
1881 .	−0·7	+0·2	−0·2	+0·7	+1·0	+1·6
1890 .	+0·7	+0·2	+1·2	+1·1	+0·2	+1·8
1892 .	+3·1	+0·9	+4·4	+2·5	+0·4	+2·7
1894 .	+0·3	+0·2	+0·1	+2·0	+0·3	+1·6
1895 .	+0·6	0	+1·4	+3·4	+0·8	+3·6
1896 .	+2·3	+1·7	+2·7	+2·8	+1·6	+3·6
1897 .	+0·3	+1·1	+0·2	+1·8	+1·6	+3·6
1898 .	+1·5	+0·7	+1·3	+0·5	+0·6	+0·7
1899 .	+1·3	−0·4	+2·1	+2·1	−0·4	+3·3
1900 .	+0·5	+1·7	+1·4	−0·1	+1·8	+0·8
1901 .	0	+0·4	−0·1	+0·4	+0·2	+0·4
1902 .	+1·3	+1·3	+2·4	+1·0	+1·4	+1·5

The following gives mean temperature variation data of Northern India (including the Punjab, Upper Sind, the United Provinces, Bihar and Rajputana) for the month of May of these years :—

Month and Year.	Variation of mean temperature in Northern India.	Area of greatest variation.	Amount of greatest variation.
	°		°
May 1879 . . .	+4·0	United Provinces of Agra and Oudh.	+5·0
,, 1880 . . .	+2·0	South Punjab . .	+5·6
,, 1881 . . .	+0·8	Ditto . .	+2·9
,, 1890 . . .	+1·5	Punjab . . .	+2·5
,, 1892 . . .	+3·0	West Punjab . .	+5·5
,, 1894 . . .	+3·0	Chota Nagpur . .	+5·0
,, 1895 . . .	+4·0	Punjab . . .	+6·0
,, 1896 . . .	+3·1	Do. . . .	+4·8
,, 1897 . . .	+3·6	North-West Rajputana.	+5·5
,, 1898 . . .	+0·8	Assam (Surma) . .	+3·6
,, 1899 . . .	+3·3	Punjab (Central). .	+6·3
,, 1900 . . .	+0·3	Ditto . .	+2·5
,, 1901 . . .	+0·7	United Provinces Central.	+2·8
,, 1902 . . .	+0·9	North Punjab . .	+3·4

(2) Excessive temperature in the month of May generally gives rise to a larger diminution of pressure over the Indian area than that normal to the month, and hence to a deficiency of pressure as compared with the normal. The decrease of pressure is chiefly, if not solely, a temperature effect.

The following gives comparative data of the month of May for 1902 and also for twelve years which were, in the great majority of cases, characterized by increased temperature and decreased pressure over the Indian area :—

Year.	Variation from normal of	
	Mean pressure of month (mean of 10 and 16 hours).	Mean temperature of month, (mean of 10 and 16 hours).
	"	°
May 1879	−·045	+1·3
,, 1880	−·022	+0·2
,, 1890	−·022	+0·6
,, 1892	−·027	+1·8
,, 1894	−·023	+1·5
,, 1895	−·007	+2·4
,, 1896	+·013	+2·3
,, 1897	−·004	+1·7
,, 1898	−·008	+0·6
,, 1899	−·019	+0·8
,, 1900	+·056	+0·8
,, 1901	+·009	+0·3
,, 1902	+·004	+1·2

The preceding data show that increased temperature in May generally accompanies decreased pressure. The relation is not direct as there is no simple relation between the two series of variations. This is of course due to the fact that the variations of pressure over the Indian area are due to more general causes and actions than increased temperature in India. These variations are sometimes similar and sometimes opposite in character to those due to increased temperature. In May 1902 both temperature and pressure were in slight excess. Roughly, a general excess of 1° temperature corresponds to a mean decrease of pressure of about ·015″ to ·020″.

An equally important result of the increased temperature at the level of the plains is a relative increase of excess of pressure at the level of the hill stations. This is usually expressed in term of the vertical pressure anomalies which in such periods are positive and approximately proportional to the general elevation of temperature.

The following gives data for six pairs of stations for twelve years :—

Year.	Vertical pressure anomaly in May.							
	Quetta and Jacobabad.	Leh and Lahore.	Murree and Rawalpindi.	Simla and Ludhiana.	Chakrata and Roorkee.	Darjeeling and Calcutta.	Mean of six pairs.	Mean temperature variation from normal in Punjab (May).
	"	"	"	"	"	"	"	°
1880	?	+·069	+·038	?	+·015	+·007	+·032	+3·5
1890	+·006	+·063	+·041	+·033	+·022	+·002	+·028	+2·3
1892	+·050	+·125	+·035	+·049	+·040	+·003	+·050	+4·2
1894	+·037	+·082	+·028	+·042	+·035	+·023	+·041	+3·1
1895	+·063	+·101	+·057	+·060	+·045	+·033	+·060	+6·0
1896	+·046	+·085	?	+·050	+·038	+·011	+·046	+4·8
1897	+·050	?	+·017	+·054	+·058	+·028	+·041	+3·1
1898	+·012	+·003	+·001	+·009	+·025	+·015	+·011	+0·2
1899	+·043	+·075	+·033	+·047	+·045	—·005	+·040	+5·3
1900	—·004	—·007	+·006	+·022	+·049	—·012	+·009	+0·6
1901	+·036	+·003	+·006	+·020	+·020	+·021	+·018	—0·3
1902	+·042	+·039	+·022	+·025	+·004	—·021	+·019	+1·9

The data of the two last columns indicate that an excess of 1° of temperature corresponds to an increase of the vertical anomalies in Upper India of ·01".

(3) In March and April, weather was somewhat more disturbed than usual and frequent falls of snow occurred in the Punjab and Kashmir Himalayas, thus prolonging the winter somewhat beyond its normal limit. The falls were, however, limited mainly to the higher ranges. There was no abnormal extension of the snowclad surface in May.

The snowfall was more or less largely below the normal in December, January and February.

Late and heavy snowfall occurred in April and May in 1901, 1898, 1885 and 1878. The following gives the variations of the mean pressure of the Indian area from the normal during the first five months of these years and of 1902 for comparison :—

Year.	Variation of the mean pressure of the Indian area from the normal in				
	January.	February.	March.	April.	May.
	"	"	"	"	"
1878	+·030	+·033	+·044	+·037	+·082
1885	+·039	—·013	+·022	+·018	+·068
1898	+·017	—·077	—·013	—·017	—·009
1901	+·011	+·020	+·045	—·004	+·012
1902	—·012	+·088	—·015	+·002	+·009

The data for 1902 show that the late snowfall of March and April exercised little or no effect upon the pressure conditions, such for example as occurred in 1878 and 1885. In the years 1898 and 1901 the snowfall was moderate in the early part of the winter, and although larger than usual in April and May, it was not excessive, as in 1878 and 1885. This is confirmed by a comparison of the temperature variations of the Punjab and United Provinces for the months of March, April and May 1898 and 1901 with those of 1878 and 1885 given in the table below :—

Year.	Punjab.			United Provinces of Agra and Oudh.		
	March.	April.	May.	March.	April.	May.
	°	°	°	°	°	°
1878	+1·9	—0·9	—4·3	+1·4	—0·6	—4·6
1885	+1·2	—3·1	—8·1	+0·6	—1·0	—3·6
1898	—0·4	+4·8	+0·2	—0·6	+2·5	+0·7
1901	+1·3	—2·7	—0·3	—1·5	—1·7	+0·4
1902	+2·9	+0·1	+1·9	+3·2	—0·2	+0·2

(4) The fourth feature of hot weather seasons following cold weather periods of scanty rain, *viz.*, heavier rain and more frequent series of thunderstorms in North-Eastern India than usual, was present in the hot weather of 1902 in a very marked form.

The following gives comparative rainfall data in illustration :—

Division.	Variation of rainfall from normal in				
	March 1902.	April 1902.	May 1902.	Total of period, March to May.	Percentage variation from normal.
	"	"	"	"	"
Assam (Surma)	—3·08	+6·72	—2·62	+1·02	+ 3
„ (Hills)	—1·40	+4·83	—3·93	—0·50	— 2
„ (Brahmaputra)	+0·35	+3·19	—4·06	—0·52	— 2
Bengal, East	—0·53	+9·28	+2·63	+11·38	+67
„ Deltaic	+1·25	+3·57	+3·29	+8·11	+82
„ Central	+0·49	+2·30	+0·78	+3·57	+53
„ North	+2·67	+0·88	+1·06	+4·61	+29
„ Hills	+1·14	+1·40	—0·65	+1·89	+13
Orissa	—0·18	+1·90	—0·52	+1·20	+20

The more important features of the hot weather period of 1902 were as follows :—

(1) Small variations of pressure, both generally and locally, during the whole of the period.

(2) Slight to moderate excess of pressure at the level of the hill stations in North-Western India. This feature was most marked in May when it averaged ·026". The amount of this excess in relation to the temperature excess indicates that it was purely a temperature effect.

(3) *Higher* temperature than usual throughout the whole period in North-Western and Central India and the Peninsula. The variations were not large but very persistent in these areas. The excess was greatest in Upper India and Baluchistan for which it averaged 2·0°.

(4) Lower temperature than usual in North-Eastern India accompanying more frequent and heavier rain than usual in April and May. More protracted hot weather than usual, due to delay in the establishment of the monsoon on the Bombay Coast. The absolute maximum temperatures of the year were hence generally recorded a few days later than usual. The following gives the more noteworthy and the date of their occurrence with the normal date of the hottest day of the year:—

Area.	Station.	Highest maximum temperature recorded during the year.	Date on which recorded.	Normal.
		°		
Punjab	Dera Ismail Khan	119·7	5th June.	8th June
	Mooltan	119·0	5th ,,	1st ,,
	Khushab	118·9	4th ,,	10th ,,
	Peshawar	117·5	7th ,,	22nd ,,
	Lahore	117·4	4th ,,	1st ,,
	Sialkot	117·0	4th ,,	1st ,,
	Montgomery	117·0	3rd ,,	31st May
	Sirsa	115·8	3rd ,,	1st June
Sind	Jacobabad	125·0	5th ,,	27th May
Rajputana	Bikaner	115·8	1st ,,	29th ,,

(5) An important feature of the period was the heavy rainfall received in North-Eastern India due to unusually frequent and severe series of thunderstorms. Some of the hailstorms in the Assam Valley and Cachar were of exceptional violence. The storm sections of the monthly reviews for March and May give brief accounts of these severe storms.

(6) A noteworthy feature of the period was the occurrence of two storms, one in the Bay and the other in the Arabian Sea, in the first week of May. These storms were of great intensity and occurred very early in the storm season.

The larger features of the hot weather period were hence directly related to the conditions of the previous cold weather season and to the absence of late snowfall in April and May in the North-Western Himalayas.

III.—The south-west monsoon period, June to September 1902.—The meteorological conditions in the Indian land area antecedent to the establishment of the south-west monsoon were, on the whole, favourable to a normal monsoon and also to its rapid extension over India.

The following gives the most prominent and important of these antecedent conditions:—

(1) The winter was exceptionally mild in the Afghan and Himalayan mountain districts and the snowfall more or less largely below the normal during the months of December, January and February.

(2) Frequent falls of snow occurred in March and April in the Western Himalayas in the middle and higher ranges. Weather was, on the whole, drier and finer than usual in May and the snow hence melted very rapidly, with the result that at the end of May there was no abnormal accumulation of snow except perhaps on the highest ranges. The snowline was almost certainly not lower than usual in the beginning of June in the Punjab Himalayas.

(3) The snowfall in the Eastern Himalayas was more or less below the normal except locally in the hills to the north and east of Sadiya.

(4) The pressure conditions in India during the previous five months were such as are usually associated with much finer weather than usual: the chief features, which were remarkably persistent, being (*a*) local deficiency in Northern India, most marked in the West Punjab, and (*b*) local excess in North-Eastern India and Burma, greatest in Upper Burma.

(5) The temperature conditions were such as usually accompany a more open and milder winter than usual in the Himalayan area. Temperature was in moderate to considerable excess in North-Western and Central India from December to March and in slight excess in April and May. Temperature differed little from the normal throughout the period in North-East India except in April when it was in moderate defect due to the occurrence of unusually heavy rain. Conditions were approximately normal in the Peninsula.

(6) A noteworthy feature of the weather during the months, March to May, was the occurrence of heavier rain than usual in North-Eastern India. The fall was unusually heavy in April when several stations obtained three to five times their normal amounts,—falls greater than any recorded in that month during the past 25 years.

(7) The air was much drier than usual throughout nearly the whole season in North-Western and Central India and the Deccan.

(8) Weather was in the first fortnight of May more disturbed than usual in the Indian seas due to a temporary advance of humid winds and the formation of cyclonic storms both in the Bay of Bengal and in the Arabian Sea. The storm in the Arabian Sea was a very severe disturbance and in many of its features resembled the storm of the first week of May 1892.

(9) The chief abnormal features of the meteorology of India during the cold weather months were related to abnormal conditions in Persia, Central Asia and South and South-East Europe where very strongly marked anti-cyclonic conditions prevailed during the period, January to March.

(10) The information received from South Africa and the south-west of the Indian Ocean, represented by Mauritius, shews that the south-east Trades were, up to the beginning of June, below their normal strength. The general deficiency of rainfall during the season in South Africa, and at Zanzibar and the lateness of the rains on the Upper Nile also

support the conclusion that the Trades were weaker than usual.

The following is a summary of the forecast (prepared in the first week of June) of the probable strength of the monsoon currents and the distribution of the monsoon rainfall based on these conditions:—

(1) *It* is probable that the monsoon currents will not be above their normal strength and may fall below it. There will be no very abnormal delay in the establishment of the currents on either side of India, which may, therefore, be expected about the middle of the second week of June on the Bombay coast and by the third week of June on the Bengal coast. The Arabian Sea current is more likely to give good rain than the Bay current, but both are likely to be less steady than usual during June. The average rainfall of the whole of India may be in slight defect.

(2) Conditions are generally unfavourable in Burma, more especially in Upper Burma. The rainfall of the period will hence probably be normal or in slight defect in Lower and Cental Burma and in moderate defect in Upper Burma.

(3) Conditions are as unfavourable in Assam as in Upper Burma and it is probable that on the mean of the monsoon period the rainfall will be below normal to a moderate extent in that area.

(4) Conditions are slightly unfavourable in East and North Bengal and the rainfall there will probably be in slight defect. In Orissa, Chota Nagpur and West Bengal, however, conditions are favourable for at least normal rainfall.

(5) Conditions are favourable in Bihar and the United Provinces and these districts will, as a whole, probably receive at least normal rainfall.

(6) Conditions are, on the whole, favourable in the Punjab, and it is probable that the monsoon rainfall of the year will be about normal in the East Punjab, but below the normal to a moderate extent in the western and northern districts where conditions are more or less unfavourable. If the monsoon currents prove strong conditions are favourable for unusually heavy rain in the Simla and Mussoorie hills and the adjacent sub-montane districts.

(7) Conditions are almost as favourable in Central India as in the United Provinces, and that area will probably receive about normal rainfall. The rainfall is more likely to be in excess in the eastern than in the western states.

(8) Conditions are, on the whole, favourable in Rajputana—more especially in the eastern and central districts, where the monsoon rainfall will hence probably be normal.

(9) Conditions are, on the whole, favourable in the Central Provinces. It is hence probable that this area will receive normal rainfall. The conditions are slightly more favourable in the eastern than in the western districts, and it is hence probable that the eastern districts may receive rainfall in slight excess of the normal. They are less favourable in Hyderabad than in the Central Provinces, and the rainfall in that state will probably be normal or in slight defect.

(10) Conditions are practically normal in Berar and Khandesh, and the rainfall in these areas will probably be about normal. They are, on the whole, favourable in the West Deccan and that area will probably receive its normal fall.

(11) The conditions in the West Coast districts are on the whole such as are, in years of normal monsoon conditions, usually associated with normal rainfall. It is hence probable that the rainfall of the present year's south-west monsoon will be about normal on the Konkan coast. It is probable that it will be slightly below normal in Malabar, where conditions are less favourable.

(12) The variations of the rainfall in the north Madras coast districts are in at least five years out of six similar to those of Orissa and the Central Provinces. Conditions appear to be, therefore, on the whole, favourable, and it is probable that these districts will receive about normal rain.

(13) A comparison of the conditions in the Madras Deccan, Mysore and the Carnatic with those of similar years indicates that the rainfall during the period —June to September—will probably be in slight excess in Mysore and South Madras and normal or in defect in Central and East Madras. If, however, a prolonged break in the rains occurs in Northern India in July or August, South India will receive abundant rain.

(14) The pressure conditions in Gujarat, Kathiawar, Sind and Cutch are such as are usually associated with deficient rainfall. Hence in these areas less rain than usual may be expected. If the Bombay current proves weaker than usual the deficiency in these areas may be serious.

The following gives a summary of the rainfall data of the south-west monsoon period, 1902, for comparison with the statements of the forecast:—

Province.	Rainfall of season, June to October.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Burma	94·75	98·01	−3·26	− 3
Assam	81·81	77·55	+4·26	+ 5
Bengal	66·59	62·53	+4·06	+ 6
Chota Nagpur	41·01	44·71	−3·70	− 8
Bihar	40·87	44·61	−3·74	− 8
United Provinces of Agra and Oudh.	32·67	35·88	−3·21	− 9
Punjab	13·24	14·81	−1·57	−11
Central Provinces	33·60	45·99	−12·39	−27
Central India	33.24	35.56	−2·32	− 7
Rajputana	15·35	16·63	−1·28	− 8
Berar	25·20	29·61	−4·41	−15
Bombay	37·16	40·54	−3·38	− 8
Madras	40·08	34·05	+6·03	+18

The forecast was in moderate accordance with fact. The general character of the monsoon was, on the whole, correctly anticipated. The chief discrepancies were in the estimates of the rainfall in Burma and North-Eastern India generally, and in the Central Provinces and Berar. In the former it was underestimated and in the latter considerably overestimated.

The following table gives the mean variations of the more important meteorological elements in the eleven meteorological provinces of India for the south-west monsoon period, June to September, 1902:—

Meteorological Province.	South-west monsoon period, June to September, 1902.							
	Variation from normal of mean pressure.	Variation from normal of mean maximum temperature.	Variation from normal of mean minimum temperature.	Variation from normal of mean aqueous vapour pressure.	Variation from normal of mean relative humidity.	Variation from normal of mean cloud amount.	Total variation from normal of average actual rainfall.	Percentage variation from normal of rainfall.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	+·005	+0·5	+0·7	+·012	—1	—0·3	—8·22	—7
Burma Inland	+0·12	0	+0·2				—0·24	—1
Assam	—·001	—1·1	—0·3				+9·92	+15
Bengal and Orissa	+·001	+0·5	+0·2	+·011	—2	+0·4	+6·49	+12
Gangetic Plain and Chota Nagpur.	—·001	+1·4	+0·6	—·010	—4	+0·4	—1·87	—5
Upper Sub-Himalayas.	+·002	—0·3	+0·4	—·008	0	—0·6	—4·32	—14
North-West Frontier Province, Indus Valley and North-West Rajputana.	+·004	+0·8	+0·7	+·004	—3	—0·8	—0·85	—12
East Rajputana, Central India and Gujarat.	+·002	+2·0	+1·4	—·015	—6	—1·0	—2·44	—9
Deccan	+·008	+2·8	+1·1	—·009	—5	—0·5	—8·27	—25
West Coast	0	+0·6	+0·8	+·008	—3	—0·6	+16·49	+20
South India	+·006	+1·0	+0·7	+·023	0	+0·1	—0·67	—4

The following is a statement of the chief features of the meteorology of the whole period:—

(1) The mean pressure of the Indian area differed very slightly from the normal in August and September and was in moderate defect in July, and in moderate excess in June. On the mean of the period it was only ·004″ above the normal. The provincial variations changed considerably from month to month, and on the mean of the period were small and of no importance.

(2) Temperature was practically normal throughout in North-Eastern India and Burma, or in the area dependent upon the Bay current for its rainfall. It was more or less in excess over the field of the Arabian Sea current from June to August (more especially in the interior districts) and was normal in September. The day temperature was generally more largely in excess than the night temperature. The mean temperature of the period was 1° and upwards in excess in the Deccan (2°), East Rajputana, Central India and Gujarat (1·7°), and the Gangetic Plain (1·0°).

(3) The mean aqueous vapour pressure for the period varied very slightly from the normal over the whole area and was generally below the normal. The relative humidity was everywhere in defect as a result of the increased temperature which prevailed during the greater part of the period, but the variations from the normal were on the average of the whole period small in amount. They were greatest in East Rajputana, Central India and Gujarat (—6), the Deccan (—5) and the Gangetic Plain and Chota Nagpur (—4).

(4) The amount of cloud was, on the mean of the period, in slight defect over the area under the influence of the Bombay current and in very slight excess in the area dependent on the Bay current (except Lower Burma). The variations averaged —0·8 over the whole of North-Western India, for which the normal mean cloud amount is 4·7 for the period.

(5) The rainfall of the period was very irregularly distributed throughout the season. The following are the chief features:—

(*a*) The Bombay current was very weak until the middle of August, and three prolonged breaks occurred during which the rainfall in the interior was very light and scanty. The rainfall of the first half of the monsoon period including the months of June and July was hence more or less largely in defect over nearly the whole area dependent on that current. The following gives data in illustration:—

Area.	Variation from normal of rainfall in			Normal rainfall of period, June and July.	Percentage variation of period.
	June.	July.	Period, June and July.		
	Inches.	Inches.	Inches.	Inches.	
Malabar	—15·21	+21·35	+ 6·14	70·99	+ 9
Konkan	—10·54	— 2·69	—13·23	67·18	—20
Gujarat	— 5·46	— 4·18	— 9·64	23·32	—41
Kathiawar and Cutch	— 3·49	— 6·37	— 9·86	14·89	—66
Bombay Deccan	— 0·68	— 1·04	— 1·72	14·81	—12
Madras Deccan	+ 0·67	— 1·24	— 0·57	5·39	—11
Berar	— 4·13	+ 1·52	— 2·61	15·02	—17
Central Provinces	— 6·50	— 1·56	— 8·06	23·29	—35
Central India	— 5·71	+ 5·79	+ 0·08	17·60	0
Rajputana	— 0·45	+ 0·29	— 0·16	8·08	—2

(*b*) The Bombay current was strong and gave abundant rain from the middle of August to the end of September. The rainfall during the second half of the season in the field of the Bombay current was hence normal or in excess. The rainfall was very unequally distributed due to the occurrence of a series of five cyclonic storms which gave locally excessive rainfall to Gujarat, Kathiawar and Cutch. The following gives data :—

Area.	Variation from normal of rainfall in				Percentage variation from normal.
	August.	September.	Period, August and September.	Normal rainfall of period, August and September.	
	Inches.	Inches.	Inches.	Inches.	
Malabar	−5·03	+14·74	+ 9·71	29·62	+33
Konkan	−4·59	+10·72	+ 6·13	38·32	+16
Gujarat	+4·23	+ 6·26	+10·49	16·40	+64
Kathiawar and Cutch	+1·84	+ 3·67	+ 5·51	11·16	+49
Bombay Deccan	−2·33	− 0·97	− 3·30	11·83	−28
Madras Deccan	−0·58	+ 1·23	+ 0·65	9·42	+ 7
Berar	−0·11	− 1·93	− 2·04	12·86	−16
Central Provinces	−2·98	− 0·35	− 3·33	20·87	−16
Central India	−4·21	+ 1·90	− 2·31	17·08	−14
Rajputana	−1·68	+ 0·42	− 1·26	8·42	−15

(*c*) The rainfall of the whole monsoon period was more or less below the normal over the greater part of the area dependent on the Arabian Sea current. The following gives a summary of the data :—

Area.	Rainfall of period, June to Sept. 1902.			
	Average actual, 1902.	Average normal.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Malabar	116·46	100·61	+15·85	+ 16
Konkan	98·40	105·50	−7·10	− 7
Gujarat	40·57	39·72	+0·85	+ 2
Kathiawar and Cutch	21·70	26·05	−4·35	− 17
Bombay Deccan	21·62	26·64	−5·02	− 19
Madras Deccan	14·89	14·81	+0·08	+ 1
Berar	23·23	27·88	−4·65	− 17
Central Provinces	32·77	44·16	−11·39	− 26
Central India	32·45	34·68	−2·23	− 6
Rajputana	15·09	16·50	−1·41	− 9

The data show that the deficiency was large, exceeding 15 per cent. in four areas, *i.e.*, the Central Provinces (26 per cent.), the Bombay Deccan (19 per cent.) and Berar, Kathiawar and Cutch (each 17 per cent.)

(*d*) The Bengal current was moderately strong throughout the whole period and gave on the whole normal and well-distributed rain. The following gives data in illustration :—

Area.	Variation from normal of rainfall in				
	June.	July.	August.	September.	Period, June to September.
	Inches.	Inches.	Inches.	Inches.	Inches.
Burma	−2·76	+5·58	−5·33	+1·63	−0·88
Bengal	−0·55	+3·30	−0·28	+3·49	+5·96
Assam	+4·48	−2·65	+1·08	+2·24	+5·15
Bihar	−3·64	+0·60	−3·48	+4·34	−2·18
Chota Nagpur	−6·18	+2·97	−1·80	+3·58	−1·43
Orissa	−4·27	+7·53	+0·43	−3·28	+0·41
United Provinces of Agra and Oudh.	−3·30	+3·62	−4·37	+1·95	−2·10
Punjab	+0·59	−0·77	−1·49	−0·14	−1·81

The preceding data are given in a slightly different form in the following table *viz.*, as percentages :—

Area.	Percentage variation of rainfall.				
	June.	July.	August.	September.	Period, June to September.
Burma	− 12	+ 21	− 22	+ 10	− 1
Bengal	− 4	+ 21	− 2	+ 29	+ 11
Assam	+ 22	− 13	+ 6	+ 16	+ 7
Bihar	− 46	+ 5	− 29	+ 48	—
Chota Nagpur	− 67	+ 21	− 18	+ 43	− 5
Orissa	− 45	+ 63	+ 4	− 33	+ 3
United Provinces of Agra and Oudh.	− 66	+ 31	− 39	+ 30	− 18
Punjab	+ 35	− 15	− 29	− 6	− 4

(*e*) The monsoon rains were very late in commencing in the areas for which data are given below :—

Province.	Normal or average date of commencement of south-west monsoon rains.	Actual date of beginning of south-west monsoon rains in 1902.	Monsoon began later than usual by
Chota Nagpur	15th June	1st July	16 days.
United Provinces	25th ,,	4th ,,	9 ,,
Central Provinces	10th ,,	1st ,,	21 ,,
Central India	15th ,,	1st ,,	16 ,,

(*f*) The monsoon rains terminated about a week later than usual in Rajputana and the East Punjab.

(*g*) They ceased earlier than usual in the provinces for which data are given below :—

Province.	Normal or average date of termination of south-west monsoon rains.	Actual date of termination of south-west monsoon rains in 1902.	Monsoon ended earlier than usual by
Konkan	15th October	22nd September	23 days.
Malabar	15th November	8th November	7 ,,
Central Provinces	15th October	22nd September	23 ,,
Central India	30th September	23rd ,,	7 ,,
United Provinces	,, ,,	26th ,,	4 ,,
Bihar	15th October	7th October	8 ,,
Bengal	31st ,,	10th ,,	21 ,,
Upper Burma	1st November	,, ,,	22 ,,
Lower Burma	20th ,,	21st ,,	30 ,,

The date of termination of the rains for the Konkan and North Deccan is that of the fairly continuous rainfall that characterizes the monsoon. Rain fell later than the dates given in these areas during three short periods when storms were passing northwards up the centre of the Arabian Sea. The data show that the rains also terminated considerably earlier than usual in Bengal, Burma and the Central Provinces. The only area in which the crops suffered to a serious extent was in the eastern (rice-growing) districts of the Central Provinces where the rice crop partially failed in the Bilaspur, Raipur and neighbouring districts.

The previous remarks have shown that the pre-monsoon conditions in India were such as are usually considered favourable to the establishment of early and abundant monsoon rains. The cold weather was one of the driest and warmest on record. The hot weather was also hotter than usual. Pressure was in May on the mean of the whole area practically normal and the local variations were generally unimportant except perhaps in North Bombay. The snowfall over the Western Himalayas was undoubtedly much less than usual. It fell late in the season, chiefly during March and April, in moderate amounts. There was, hence, no abnormal extension of the area of snow accumulation in May, and the temperature, humidity and pressure variations in North-Western India for May indicate clearly the absence of abnormal conditions due to late and heavy snowfall.

The conditions in India itself hence fail to give any clue to the delay in the advent of the monsoon, and to the great weakness and scanty rainfall of the monsoon currents in June and July and more especially of the Bombay or Arabian Sea current. We have now to examine the conditions in the oceanic area to the south of India.

The information at present available for discussing the meteorology of the South-East Trades region of the Indian Ocean is very limited.

The following gives variation data of the Royal Alfred Observatory, Mauritius, for nine months of the year deduced from a comparison of the means of 1902 with normal means based on the observations of the previous 26 years :—

Mauritius.

Month.	Variation from normal of pressure.	Variation from normal of rainfall.	Percentage variation of rainfall.	Variation from normal of hourly wind velocity in miles.	Percentage variation of wind velocity.
	″	Inches			
January, 1902	+·012	— 4·96	— 56	—0·2	— 2
February ,,	—·043	+10·47	+149	+4·5	+40
March ,,	+·028	— 3·03	— 37	—0·9	— 9
April ,,	—·012	— 3·50	— 68	—4·0	—38
May ,,	—·019	— 2·19	— 54	—1·4	—14
June ,,	—·054	— 0·26	— 14	—1·5	—13
July ,,	—·051	— 0·19	— 8	—1·4	—14
August ,,	—·058	— 1·79	— 76	—2·3	—19
September ,,	—·022	— 0·13	— 9	—1·1	— 9

The data for Mauritius are very remarkable. They show that the air movement and the rainfall were both more or less largely below the normal in every month except February, and also that the air pressure was below the normal in seven out of the nine months of the period. The deficiency was large in the period June to August, averaging ·054″. In February the rainfall was excessive, 10·47 inches or 149 per cent. above the normal and the air movement much stronger than usual. The air pressure was ·043″ below the normal, although it was ·088″ above it on the average of the whole of India. It is a striking example of the inverse character of the pressure variations in the Indian area and the Indian Ocean. The meteorological conditions in Mauritius, antecedent to and accompanying the south-west monsoon, were hence very abnormal and almost unique in their persistency.

In the following table a similar comparison is given for Zanzibar, the normal means being deduced from the observations of ten years :—

Zanzibar.

Month.	Variation from normal of pressure.	Variation from normal of rainfall.	Percentage variation of rainfall.	Variation from normal of hourly wind velocity in miles.	Percentage variation of wind velocity.
	″	Inches.			
January, 1902	+·011	—3·15	— 93	+0·6	+ 7
February ,,	+·068	+2·45	+178	+1·3	+20
March ,,	+·010	—0·25	— 4	—1·8	—31
April ,,	+·008	—0·60	— 6	—1·3	—17
May ,,	—·009	+1·46	+ 14	+0·5	+ 6
June ,,	—·029	—0·07	— 7	—0·8	— 9
July ,,	—·031	+2·20	+ 80	—0·2	— 2
August ,,	—·035	—1·29	— 68	—0·8	—11
September ,,	— 011	+0·61	+ 30	+0·2	+ 3

The data indicate that the pressure variations at Zanzibar were generally similar to the variations at Mauritius. Pressure was below the normal in five months, the deficiency being marked from June to August, thus agreeing with Mauritius. The only noteworthy difference was that pressure was almost as largely in excess at Zanzibar in February as in the Indian area while it was in largish defect at Mauritius. The air movement was also generally more or less below the normal. The only important exception was the month of February when it was in moderate excess. The rainfall was below the normal in five months and above it in four and on the total of the whole period was 1·36 inches in excess.

The following table gives the mean pressure differences between Mauritius and Zanzibar and Mauritius and the Seychelles (determined from the data of the eight years 1894 to 1901) and the actual differences in the corresponding months of the year 1902 :—

Month.	PRESSURE DIFFERENCE.					
	Mauritius *minus* Zanzibar.			Mauritius *minus* Seychelles.		
	Mean of 1894 to 1901.	Mean of 1902.	Variation.	Mean of 1894 to 1901.	Mean of 1902.	Variation.
	"	"	"	"	"	"
January	+·029	+·062	+·033	—·017	+·043	+·060
February	+·003	—·073	—·076	+·003	—·084	—·087
March	+·042	+·087	+·045	+·048	+·09	+·047
April	+·053	+·059	+·006	+·111	+·115	+·004
May	+·060	+·051	—·009	+·162	+·152	—·010
June	+·048	+·051	+·003	+·206	+·169	—·037
July	+·090	+·066	—·024	+·224	+·200	—·024
August	+·108	+·080	—·028	+·243	+·221	—·022
September	+·108	+·107	—·001	+·211	+·214	+·003
Mean of whole period	+·060	+·054	—·006	+·132	+·125	—·007
Mean of June to September.	+·089	+·076	—·013	+ 221	+ ·201	—·020

The preceding data indicate that the pressure differences or total gradients between Mauritius and the Equatorial Belt, as represented by Zanzibar and the Seychelles, were greater than the mean of the eight years 1894 to 1901 during January and March, but considerably less than the mean in February, July and August. In other months of the year the gradient was practically equal to the mean. On the average of the monsoon period, however, the gradient was below the mean to a moderate extent.

The following table gives a comparison, week by week, from the 1st of May to the end of September of the air pressure and velocity of the air movement at Port Victoria, Seychelles, in the eight years 1895 to 1902:—

Week.	10 A.M. pressure reduced to sea-level and constant gravity at Lat. 45°.	Hourly wind velocity in miles.							
		1902.	1901.	1900.	1899.	1898.	1897.	1896.	1895.
	"								
1st to 7th May	29·857	7·3	6·0	4·9	5·7	3·1	7·1	5·3	5·9
8th to 14th "	29·912	6·5	4·7	6·3	4·4	2·4	6·4	8·3	3·6
15th to 21st "	29·930	7·7	3·0	3·4	7·5	7·9	6·2	10·1	3·7
22nd to 28th "	29·925	13·9	9·8	5·4	19·5	7·5	6·9	9·4	6·4
29th May to 4th June.	29·901	12·2	8·4	8·8	10·9	7·5	4·5	9·4	9·9
5th to 11th June.	29·887	13·4	11·5	9·6	8·3	10·8	7·3	9·5	12·9
12th to 18th June.	29·921	8·9	7·0	9·8	12·2	13·7	7·8	11·8	11·6
19th to 25th June.	29·969	8·6	8·3	8·9	13·5	10·3	9·0	9·9	10·3
26th to 2nd July.	29·958	11·1	7·8	11·3	11·7	13·0	4·0	10·7	13·0
3rd to 9th July	29·938	9·5	9·4	9·8	15·9	13·9	11·3	12·6	9·7
10th to 16th "	29·901	9·4	7·1	13·9	14·8	12·2	10·0	11·9	11·3
17th to 23rd "	29·958	10·6	11·0	11·3	13·3	8·9	9·2	12·6	14·0
24th to 30th "	29·952	15·3	12·9	12·4	14·8	11·5	16·8	11·3	11·2
31st July to 6th Aug.	29·945	11·8	11·5	12·9	13·0	12·4	11·5	15·8	13·2
7th to 13th Aug	29·912	10·2	15·0	13·8	14·2	12·3	9·9	14·0	11·7
14th to 20th "	29·911	15·7	15·7	15·5	15·3	14·3	13·1	13·7	16·0
21st to 27th "	29·889	11·5	15·8	14·7	15·8	12·3	12·8	15·5	14·0
28th Aug. to 3rd Sept.	29·924	12·2	17·2	12·2	12·2	9·9	8·9	16·1	12·0
4th to 10th Sept.	29·989	14·1	15·3	10·7	15·0	13·4	16·7	10·8	13·3
11th to 17th Sept.	29·956	13·4	12·5	11·5	12·8	12·5	10·9	13·3	12·9
18th to 24th Sept.	29·944	8·9	8·6	14·3	7·5	10·3	13·0	12·8	12·1

There was during the monsoon period a general correspondence between the variations of the strength of the winds at the Seychelles and the variations of the strength of the monsoon currents over the Indian land area. Thus about the time of the first advance of the monsoon over India in June the winds at the Seychelles strengthened and averaged 13·2 miles per hour from the last week of May to the middle of June. This corresponded to the advance which gave rise to the severe storm in the Arabian Sea in the first week of June. The winds were light and considerably below their normal strength for the period from the middle of June to the 23rd of July. Again the strengthening of the winds at the Seychelles about the beginning of the first week of July may be associated with the advance of monsoon winds which occurred over India about that time. An exact correspondence, however, between the varying strengths of the winds at the Seychelles and the various advances of the monsoon in the early part of the monsoon period does not seem to have obtained. The abnormally strong winds at the Seychelles during August may, however, be associated with the strong monsoon which then held over India, while the steady decline of the wind strength after the 10th of September was probably similarly related to the feebleness of the

monsoon currents over India during the latter part of that month.

The following gives the mean direction of the actual and normal air movements at Zanzibar and the Seychelles and shows that the direction of the air movement in the equatorial belt did not differ largely from the normal during the monsoon period. The chief features were (1) a slight westerly deflection of the winds at the Seychelles, in March, April and August and (2) a slight westing of the winds at Zanzibar from April to the end of the year, most marked in August :—

Month.	Zanzibar.		Seychelles.	
	Actual.	Variation E.	Actual.	Variation E.
January	N 35° E	0	N 34° W	+ 9°
February	N 36° E	+ 2°	N 4° E	+31°
March	S 70° E	+36°	N 16° W	—15°
April	S 3° E	— 2°	S 57° E	—12°
May	S 2° E	— 3°	S 44° E	0
June	S 7° E	— 3°	S 26° E	+ 3°
July	S 5° E	0	S 28° E	+ 1°
August	S 3° W	—12°	S 29° E	— 7°
September	S 10° E	— 2°	S 42° E	+ 1°

IV.—The retreating south-west monsoon period, October to December 1902.—The following gives the mean variation data of this period for the eleven meteorological provinces :—

Meteorological Province.	Retreating south-west monsoon period, October to December 1902.							
	Variation from normal of mean pressure.	Variation from normal of mean maximum temperature.	Variation from normal of mean minimum temperature.	Variation from normal of mean aqueous vapour pressure.	Variation from normal of mean relative humidity.	Variation from normal of mean cloud amount.	Total variation from normal of average actual rainfall.	Percentage variation from normal of rainfall.
	"	°	°	"			Inches	
Burma Coast and Bay Islands.	+·025	+0·9	+0·9	—·010	—3	—0·8	5·30	— 42
Burma Inland	+·037	—0·9	—1·7				—2·52	—39
Assam	+·041	—1·1	—2·8				—1·64	—27
Bengal and Orissa	+·042	—0·1	—1·0	—·036	—5	—0·3	—2·74	—45
Gangetic Plain and Chota Nagpur.	+·040	—0·1	—0·7	—·020	—3	0	—2·24	—72
Upper Sub-Himalayas	+·036	—0·6	+0·8	—·003	—1	—0·2	—0·50	—44
North-West Frontier Province.								
Indus Valley and North-West Rajputana.	+·027	+0·4	+2·0	+·060	+2	0	—0·31	—76
East Rajputana, Central India and Gujarat.	+·039	—0·4	+1·4	+·006	—3	—0·3	—0·48	—45
Deccan	+·035	—0·7	+1·6	+·039	+4	+1·2	+0·97	+25
West Coast	+·012	—0·2	+2·1	+·031	—2	+0·6	+2·02	+19
South India	+·028	—0·6	+1·3	+·051	+4	+1·2	+5·86	+36

The following summarizes the chief features of the period :—

(1) The mean pressure was considerably above the normal over the whole Indian area. The excess averaged ·032″ for the whole Indian land area. Pressure was ·077″ above the normal in October, ·041″ in November and ·022″ below it in December. The termination of the monsoon in Northern India hence accompanied a much more rapid rise of pressure in the Indian region than usual. The local variations were generally small in amount and of little significance. The only important one was a persistent moderate to considerable deficiency of pressure over the greater part of the Peninsula, most marked throughout in the South Konkan and Malabar coasts. Over Northern and Central India there was a slight relative excess of pressure on the mean of the period. The excess was very marked in North-Eastern India in October, accompanying the early withdrawal of the monsoon from that area and Burma.

(2) The most important features of the temperature conditions from the normal were as follows :—

(*a*) Temperature, both by day and night, was below the normal over the interior of Burma and the whole of North-Eastern India. This appears to have been due to some influence from the north as the decrease of temperature was most marked in Assam (—2·0°) and Upper and Central Burma (—1·3°) on the mean of the period. It extended westwards to Upper India in December.

(*b*) The mean temperature was in excess throughout the period in the Peninsula. This was solely due to large excess of night temperature accompanying increased humidity and cloud. The day temperature was in slight defect. The mean temperature of the period was most largely in excess in that area in the West Coast (+1·0°).

(*c*) Temperature, both by day and night, was above the normal during the period in Baluchistan, the Punjab, Sind and West Rajputana. The excess was most marked in the night temperature and was due to the influence of feeble depressions which advanced eastwards from the Persian area, filling up as they passed through Baluchistan and Upper India. These disturbances gave frequent moderate cloud but no rain except in the North Punjab and the higher mountains in Baluchistan and Kashmir. The mean temperature of the period averaged 2·0° in excess in Baluchistan, 1·2° in the Indus Valley and North-West Rajputana and 0·5° in East Rajputana, Central India and Gujarat.

(3) The mean aqueous vapour pressure was in moderate excess in the Indus Valley and North-West Rajputana and in the Peninsula. In the latter area

the excess was greatest in absolute amount in South India. The absolute humidity, on the other hand, was slightly below the normal in North-Eastern India and Burma. The mean relative humidity was 4 above the normal in the Deccan and South India. It was below it over the whole of North-Eastern India and Burma. The deficiency was greatest in Bengal and Orissa (—5).

(4) The cloud amount was less than usual over Northern and Central India and Burma. It was, on the other hand, above it in the Peninsula by amounts averaging 1·0, the normal being 3·7.

(5) The following gives the chief abnormal features of the rainfall of the period :—

(*a*) The rainfall of the period was more or less largely in defect in Northern and Central India and Burma. It was small in absolute amount in North-Western and Central India. The deficiency averaged 72 per cent. in the Gangetic Plain, 45 per cent. in Bengal and Orissa, 39 per cent. in Central and Upper Burma and 27 per cent. in Assam. It differred in absolute amount to a slight extent over the whole of North-Eastern India and Burma and averaged 2¼ inches for the whole area. The deficiency was largest in Lower Burma where it was 5·3 inches or 42 per cent. of the normal fall of the period.

(*b*) The precipitation was in excess over the Peninsular area by amounts increasing absolutely as well as relatively to the normal southwards. The excess averaged approximately one inch in the Deccan, two inches in the West Coast and nearly six inches (36 per cent) in Southern India.

The more noteworthy features of the period were :—

(1) The early withdrawal of the humid south-west monsoon current from North-Eastern India and Burma.

(2) The steady determination of the south-west monsoon currents to the southern half of the Peninsula from the middle of October to the middle of December.

(3) The unusually small number of storms during the period in the Bay of Bengal. Two only occurred in October and none in November and December.

(4) The abnormal character of the weather in the Arabian Sea indicated by the occurrence of three severe cyclonic storms. Two storms formed and advanced to the South Arabian Coast in October and a third advanced from the south of that sea towards the Kathiawar Coast in December. This is the largest number of storms which have appeared in the Arabian Sea during this period in any year for at least fifty years.

It has been pointed out that the monsoon rains ceased somewhat earlier than usual in North-Eastern India and Burma. The following statement gives the date of termination of the rains in these areas in 1902 and of the approximate normal dates of their termination :—

Province or Division.	Date of termination of the monsoon rains in 1902.	Normal or average date of termination of south-west monsoon rains.
Malabar	8th November	November 15th.
Konkan	22nd September	October 15th.
Kathiawar	21st „	September 21st.
Central Provinces	22nd „	October 15th.
Central India	23rd „	September 30th.
Rajputana	22nd „	„ 20th.
East Punjab	21st „	„ 15th.
United Provinces	26th „	„ 30th.
Bihar	7th October	October 15th.
Bengal	10th „	„ 31st.
Upper Burma	10th „	November 1st.
Lower Burma	21st „	„ 20th.

The termination of the rains in North-Eastern India and Burma accompanies, and is followed by, a considerable local rise of pressure which modifies largely the distribution of pressure in that area and the Bay.

This local increase of pressure was very marked in October 1902. It probably extended into Southern China and East Thibet. There is no direct evidence based on actual observations in that area for this statement. It is not only the simplest, but probably the only explanation for the temperature conditions and the air movement in Assam and Burma during the period.

The following gives data :—

October.

Area.	Variation from normal of			
	Maximum temperature.	Minimum temperature.	Humidity.	Cloud.
	°	°		
Assam	—2·0	—3·0	0	+0·7
North Bengal	—1·7	—2·7	+1	+0·9
East Bengal	—1·2	—2·0	+1	—0·1
South Bengal	+1·0	—0·4	—1	—0·4
Upper Burma	—1·8	—1·4	0	—0·5
Central Burma	+0·3	—1·9	+1	—1·0
Lower Burma	+0·3	+0·6	—2	—1·6

November.

Area.	Variation from normal of			
	Maximum temperature.	Minimum temperature.	Humidity.	Cloud.
	°	°		
Assam	−0·3	−3·0	0	−0·8
North Bengal	−1·0	−1·4	+1	−0·2
East Bengal	+0·1	−1·4	−1	−1·1
South Bengal	+0·8	−1·7	+1	−0·7
Upper Burma	−0·6	−2·0	−1	−2·2
Central Burma	+0·3	−3·6	−3	−2·0
Lower Burma	+0·8	+0·9	−4	−1·0

December.

Area.	Variation from normal of			
	Maximum temperature.	Minimum temperature.	Humidity.	Cloud.
	°	°		
Assam	−0·6	−2·7	+1	−0·8
North Bengal	−1·2	−2·3	0	+0·1
East Bengal	−0·5	−1·3	0	+0·7
South Bengal	+0·2	−0·3	−5	+1·4
Upper Burma	−2·6	−0·8	−2	−1·1
Central Burma	+0·8	−2·2	−3	−0·9
Lower Burma	+0·3	+1·1	−2	−0·6

The data indicate that this area was cooler than usual and that this effect was first exhibited in the Assam Valley and Upper Burma, and that it was most marked in these areas and extended southwards and westwards from them.

A second noteworthy feature of the pressure distribution was the local deficiency in the west coast districts of the Peninsula, the whole of the Arabian Sea and the western half of the Equatorial belt.

The following gives data in illustration:—

Station or Area.	Pressure anomaly.			
	September.	October.	November.	December.
	"	"	"	"
East Coast	+·009	+·010	+·001	+·005
Deccan	−·006	−·009	−·004	−·011
West Coast	−·001	−·033	−·025	−·007
Amini Devi	+·007	−·038	−·027	−·008
Colombo	+·010	−·044	−·024	+·021
Aden	−·032	−·093	−·061	+·015
Perim	+·016	−·065	−·059	+·024
Zanzibar	−·004	−·066	−·037	+·006
Seychelles	−·006	−·083	−·068	−·010

This feature was persistent throughout the period and was as marked in November when no storms occurred in that sea area as in October when two storms were generated.

The most important feature of the pressure conditions of the period was the large excess of pressure over the Indian area in October and November.

The following gives data:—

Month.	Pressure anomaly (whole India.)	
	8 A.M.	10 and 16 hours.
	"	"
June	+·025	+·023
July	−·017	−·020
August	+·009	+·005
September	−·002	0
October	+·077	+·064
November	+·041	+·033
December	−·022	−·024

The general pressure variations were small in amount in the rains from June to September. There was a slight excess of pressure in June and August when the Bombay current was weak and a slight deficiency in September when fairly abundant, and general rain was received from both currents.

The sudden termination of the rains at the end of September was accompanied and followed by a much larger and more rapid increase of pressure over the Indian area than usual.

This seasonal increase was, as might be expected, much larger in amount in Northern India than in the Peninsula. It extended over the areas to the north-west of India, but was smaller in amount, as is shown by the following data:—

Station.	Variation from normal of pressure in			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Quetta	+·053	+·033	−·003	+·028
Jask	+·034	−·011	−·049	−·009
Bushire	+·039	−·001	−·023	+·005
Muscat	+·045	−·011	−·017	+·006
Baghdad	+·048	−·062	−·022	−·012
Barnaul	+·078	−·066	−·063	−·017
Omsk	−·057	−·243	−·211	−·170
Baku	−·012	−·057	−·078	−·049
Tashkent	+·105	+·123	+·064	+·097
Tiflis	+·024	+·037	−·001	+·020
Tomsk	+·079	−·103	−·145	−·056
Irkutsk	+·084	+·146	+·205	+·145

After this rapid rise in October pressure increased more slowly than usual over the Indian area, and the excess was hence reduced to ·041″ in November and was replaced by a moderate general deficiency in December, averaging ·022″.

These variations accompanied:—

(1) Higher temperature than usual over Baluchistan, North-Western and Central India, and also to a less extent in the Persian area.

(2) Smaller amount of cloud and decreased humidity over the same areas.

(3) In Persia and Asiatic Turkey the air was damper and skies more clouded than usual.

It is very probable, as is shown later, that the diminished rate of increase of pressure was directly related to the increasing excess of temperature over the Indian area.

The rainfall in India occurred chiefly in the Peninsula and was due to two sets of conditions and actions. The rainfall of the period in the Madras Coast districts and South India occurred under what may be termed the ordinary or normal conditions of the period, *viz.*, from the recurvature and determination of the retreating humid winds in the Bay to the east coast of the peninsula. These winds gave frequent light to moderate showers, chiefly in the coast districts. Storms also occasionally form during the period under special conditions in the centre and south of the Bay. These storms usually pass westwards and give heavy concentrated rain to the areas over which they pass. Two storms or depressions of this class formed in the Bay and advanced the first to East Bengal and the second to the Coromandel coast. The usual number of storms of this class during the period is four.

The second action determining rainfall was the occurrence of a series of three storms in the Arabian Sea off the Malabar and Konkan coasts. Storms very rarely form in the Arabian Sea during this period. Such as occur are usually the continuation of storms which have formed in the Bay, advanced across the Peninsula and passed out into the Arabian sea. The advance of these three storms northwards was accompanied with light to moderate rain in the west coast districts and the Deccan, which hence received more favourable rain than usual in this season.

The year.—The following gives a tabular summary of the meteorological data for the year 1902 for the eleven meteorological provinces of India:—

Provincial Meteorological data for the year 1902.

Province.	Barvariation.	Mean maximum temperature of year.	Variation of year.	Mean minimum. temperature of year.	Variation of year.	Mean daily temperature of year.	Variation of year.	Mean daily range.	Absolute range during year.	Mean monthly absolute range.	Rainfall of year.	Normal rainfall of year.	Variation, from normal of year.	Percentage variation of rainfall.
	″	°	°	°	°	°	°	°	°		Inches.	Inches.	Inches.	
Burma Coast and Bay Islands	+·022	87·9	+0·6	73·8	+0·7	80·9	+0·6	14·1	37·9	22·6	132·41	146·95*	−9·34*	− 6
Burma Inland	+·026	90·3	−0·2	68·9	−0·3	79·6	−0·2	21·4	58·3	32·7	43·14	46·95	−3·81	− 8
Assam	+·021	82·3	−1·1	65·8	−1·1	74·1	−1·1	16·4	50·7	28·0	107·32	100·20	+7·12	+ 7
Bengal and Orissa	+·021	86·6	−0·1	68·8	−0·3	77·7	−0·2	17·8	54·2	29·3	79·94	71·86	+8·08	+11
Gangetic Plain and Chota Nagpur	+·013	89·3	+1·0	67·2	+0·4	78·2	+0·7	22·0	68·7	36·6	41·12	45·97	−4·85	−11
Upper Sub-Himalayas	+·013	88·4	+1·1	63·5	+0·4	76·0	+0·8	25·1	78·4	40·8	27·75	36·57*	−7·80*	−21
North-Western Frontier Province, Indus Valley and North-Western Rajputana	+·008	93·3	+2·0	56·6	+1·0	80·0	+1·5	26·7	81·8	43·5	7·78	9·99	−2·21	−22
East Rajputana, Central India and Gujarat.	+·013	91·8	+1·6	69·0	+1·5	80·4	+1·6	22·8	68·4	36·6	23·57	28·51*	−3·32*	−12
Deccan	+·016	91·9	+1·5	68·6	+1·2	80·3	+1·4	23·3	67·4	36·4	30·85	39·99*	−8·81*	−22
West Coast	+·008	86·8	+0·7	75·5	+1·1	81·2	+1·0	11·4	30·2	19·0	116·06	101·74	+14·32	+14
South India	+·017	90·6	+0·4	72·7	+0·7	81·6	+0·5	17·9	48·1	28·9	41·93	36·15	+5·78	+ 1

*A reference to Table I at the end of the summary will show that the means in figure columns 12 and 13 are derived from a smaller number of stations than the means in the eleventh figure column. The sum of the figures in columns 12 and 13 therefore will not agree with the figures in column 11.

The mean 8 A.M. pressure of the year was in excess over the whole of India by amounts averaging ·016″. The excess averaged ·022″ in Burma and North-Eastern India and decreased westwards to ·008″ on the West Coast and in the Indus Valley.

The mean maximum temperature of the year was above the normal over the Peninsula and North-Western and Central India. The excess was greatest in the Indus Valley (+2·0°), East Rajputana and Central India (+1·6°) and the Deccan (+1·5°). The mean maximum temperature of the year was in very slight defect in Bengal and Burma Inland and 1·1° in defect in Assam.

The mean temperature of the whole land area was according to the data in Table I 0·6° above the normal, and according to those of Table II in excess. The variations for the year were generally larger than those for the preceding year and equalled or exceeded 1° in four of the eleven meteorological provinces. The excess was most marked in East Rajputana, Central India and Gujarat (+1·6°), the Indus Valley and North West Rajputana (+1·5°) and the Deccan (+1·4°). The mean temperature of the year was below the normal in Assam, Bengal and Orissa and Burma Inland. The deficiency was 1·1° in Assam.

The dominating feature of the cold weather period of 1901-02 was the almost entire absence of cold weather storms and the consequent scanty precipitation, more especially on the higher mountain ranges of North-Western India. Data have been given in the preceding discussion.

The following gives data for representative stations in the areas where the deficiency was greatest in actual amount as well as relatively to the normal:—

Area.	Station.	Rainfall of period, January and February.		
		Actual 1902.	Normal.	Percentage variation from normal.
		Inches.	Inches.	
Western Himalayas.	Kilba	3·19	10·91	−71
	Simla	0·89	5·71	−84
	Srinagar	0·61	6·29	−90
	Kailang	1·47	5·94	−75
	Leh	0·01	0·66	−98
Eastern Himalayas	Darjeeling	0·03	1·72	−98
United Provinces	Allahabad	0·64	1·23	−48
	Lucknow	0	1·40	−100
	Roorkee	0	3·00	−100
Punjab	Lahore	0·03	2·22	−99
	Delhi	0	1·94	−100
	Rawalpindi	0·01	4·98	−100
	Peshawar	0·12	2·82	−96
Sind	Jacobabad	0	0·61	−100
Rajputana	Jaipur	0	0·77	−100
	Jodhpur	0	0·34	−100
	Bikaner	0	0·65	−100
Afghanistan	Kabul	0·61	2·22	−73
Baluchistan	Quetta	0·11	4·24	−97
	Kalat	0·02	2·05	−99
Persia	Bushire	1·08	5·47	−80
Asiatic Turkey	Baghdad	0·57	3·55	−84
Central Asia	Kashgar	0·03	0·39	−92

The preceding data show that over the whole area included in the table, the rainfall of the period was less than ten per cent. or one-tenth of the normal and also that the deficiency was most marked in actual amount at the high level stations in the Western Himalayas. The area of scanty cold weather precipitation hence included the Western Himalayan region, Central Asia (probably), Northern and Central India, Afghanistan, Baluchistan, South Persia and the Euphrates and Tigris Valley. How much further it extended northwards and westwards cannot, in the absence of definite information and comparative data, be ascertained. The data for Kashgar suggest that it extended over a considerable portion of Central Asia.

It is desirable to ascertain whether the area of scanty rainfall in the cold weather period extended eastwards and southwards beyond the limits given above.

The following gives data for the Peninsula, Burma, etc.:—

Area.	Station.	Rainfall of period, January and February.			
		Actual, 1902.	Normal.	Variation of actual from normal.	Percentage variation from normal.
		Inches.	Inches.	Inches.	
Peninsula	Nagpur	0	0·81	−0·81	−100
	Madras	1·33	0·75	+0·58	+77
	Bellary	0	0·11	−0·11	−100
	Trichinopoly	4·17	1·06	+3·11	+293
	Tinnevelly	5·47	2·50	+5·97	+239
	Bombay	0	0.12	−0·12	−100
	Cochin	0·18	1·41	−1·23	−87
	Trivandrum	3·06	1·27	+1·79	+141
Burma	Bhamo	0·65	1·11	−0·46	−41
	Mandalay	0	0·10	−0·10	−100
	Thayetmyo	0	0·06	−0·06	−100
	Rangoon	0	0·43	−0·43	−100
	Mergui	2·89	2·64	+0·25	+9
Extra India	Seychelles	30·46	30·48	−0·02	0
	Zanzibar	4·05	4·75	−0·70	−15
	Mauritius	19·72	14·97	+4·75	+32

The data indicate that the rainfall of the period was as largely in defect over the northern half of the Peninsula and Burma as in Northern India. It was, on the other hand, in large excess in Southern India, normal in Tenasserim, and at the Seychelles and Zanzibar and in moderate excess at Mauritius.

The cold weathers during the past 25 years characterized by similar meteorological features (more specially scanty rain and snowfall) are those of 1867, 1879, 1880, 1882, 1884, 1887 1890, 1892, 1899 and 1902.

The following gives comparative rainfall variation

data and the general character of the snowfall in the Western Himalayas in these years :—

Year.	Rainfall variation of period, January and February.		Snowfall in the West Himalayas.
	Punjab.	United Provinces of Agra and Oudh.	
	Inches.	Inches.	
1867	?	?	Largely below the normal.
1879	—1·87	—1·05	Unusually scanty.
1880	—0·68	—0·24	Much below the average.
1882	+0·64	—·058	Largely below the normal.
1884	—·075	—1·27	Probably heavier than usual.
1887	—1·14	+0·03	Much below the normal.
1890	—1·48	—1·13	Small in amount.
1892	—1·06	+0·01	Abnormally small in amount.
1899	—1·10	—·028	In slight defect.
1902	—1·92	—1·12	Exceptionally light and much below the normal.
Normal rainfall of period.	1·96	1·37	

The years which most closely resemble 1902 are 1867, 1879 and 1890 or 1892, separated by intervals approximating closely to the mean sun spot period.

The following gives the number of cold weather storms, during which fairly general rain (light to moderate in amount) fell in North-Western India in each of these years :—

Year.	Number of cold weather storms accompanied with fairly general rain in Northern India in January and February.	Number of storms accompanied with a secondar depression.
1879	0	0
1880	1	1
1882	2	1
1884	1	1
1887	2	2
1890	1	1
1892	1	1
1899	2	2
1902	0	0
Normal or average number.	About 4	About 2 or 3

The following table gives mean pressure anomaly data of India for the cold weather periods of these years for which data are available :—

Year.	Variation of pressure in the Indian area from the normal in		
	January.	February.	Mean of period.
	"	"	"
1879	—·009	—·026	—·018
1880	—·033	—·022	—·028
1882	+·024	—·015	+·005
1884	+·034	+·007	+·021
1887	—·071	+·005	—·033
1890	—·042	—·002	—·022
1892	+·009	—·056	—·024
1899	—·003	—·040	—·022
1902	—·012	+·088	+·038

The preceding data indicate that there is no definite relation between the variations of the mean pressure in India from the normal in these periods of scanty cold weather rainfall and the general character of the precipitation. Pressure was in six out of the nine years in defect, the deficiency in three years accompanying increased temperature, the usual rule in India.

The following gives the vertical anomalies for certain pairs of stations for each of these years in the cold weather period :—

Year.	Vertical pressure anomaly.							
	Leh and Lahore.		Murree and Peshawar.		Quetta and Jacobabad.		Simla and Ludhiana.	
	January.	February.	January.	February.	January.	February.	January.	February.
	"	"	"	"	"	"	"	"
1879	+·048	+·038	+·032	+·043				
1880	+·073	—·019	+·015	—·038			+·068	?
1882	—·003	—·022	+·006	—·021			—·005	—·018
1884	+·018	—·017	+·026	+·011	—·004	+·021	+·001	—·008
1887	—·068	+·022	—·039	+·004	—·028	+·011	—·024	+·001
1890	+·073	+·036	+·029	+·016	+·035	+·042	+·042	+·032
1892	+·076	+·100	+·032	+·052	+·046	+·093	+·017	+·042
1899	+·019	+·118	—·040	+·020	+·010	+·057	—·043	+·046
1902	+·115	+·065	+·067	+·058	+·086	+·060	+·047	+·034

The vertical anomalies were positive and large in amount in the cold weather periods of 1879, 1890, 1892 and 1902. In the remaining years they were generally small in amount and irregular in character.

The usual meteorological conditions in India during cold weather periods of scanty rainfall are :—

(1) Increased temperature, usually both by day and night.

(2) Decreased aqueous vapour pressure and humidity.

(3) Decreased cloud amount.

These conditions are as marked at the hill stations as in the plains.

The following gives comparative temperature data for the years for which pressure data have been given :—

Year.	Variation from normal of mean temperature in the Indian area.		
	January.	February.	Mean of period.
	°	°	°
1879	+0·8	+1·1	+1·0
1880	+0·6	—1·4	—0·4
1882	+1·4	—0·7	+0·4
1884	—0·6	—1·1	—0·9
1887	—0·7	—0·5	—0·6
1890	+0·9	+1·6	+1·3
1892	+2·0	+2·0	+2·0
1899	—2·2	+0·9	—0·7
1902	+2·0	+2·1	+2·1

Temperature was hence considerably to largely in excess in 1879, 1890, 1892 and 1902. The year 1892 corresponded very closely with 1902 in its variations.

The two following tables give data showing the variations of humidity and cloud from the normal in India in the same cold weather periods :—

Year.	Variation from normal in the Indian area.					
	Absolute humidity.			Relative humidity.		
	January.	February.	Mean of period.	January.	February.	Mean of period.
	"	"	"			
1879	—·032	—·005	—·019	—6	—3	—5
1880	—·017	—·016	—·017	—2	—1	—2
1882	+·018	—·015	+·002	+1	—2	—1
1884	—·008	—·018	—·013	0	—1	—1
1887	+·003	—·037	—·017	+3	—4	—1
1890	—·018	—·008	—·013	—4	—4	—4
1892	—·002	+·015	+·007	—3	—1	—2
1899	—·054	+·003	—·026	—6	—1	—4
1902	—·011	—·027	—·019	—6	—8	—7

Year.	Variation from normal of mean cloud amount in the Indian area.		
	January.	February.	Mean of period.
1879	—1·0	+0·1	—0·5
1880	+0·6	+0·2	+0·4
1882	0	—0·4	—0·2
1884	—0·2	—0·1	—0·2
1887	+0·4	—0·6	—0·1
1890	—0·5	—0·4	—0·5
1892	—0·1	+0·1	0
1899	—0·5	—0·1	—0·3
1902	—0·8	—0·4	—0·6

The air was notably drier than usual in the cold weather periods of the years named, more especially in 1879, 1890, 1899 and 1902. This was partly a result of decreased aqueous vapour present in the air, and partly of increased temperature.

The variations of the cloud amount were negative and greater than 0·4 in the years 1879, 1890 and 1902.

The following gives corresponding temperature data for hill and Extra Indian stations :—

Station.	Variation from normal of mean temperature during period January and February.								
	1879.	1880.	1882.	1884.	1887.	1890.	1892.	1899.	1902.
	°	°	°	°	°	°	°	°	°
Leh	+5·7	—0·5	+1·8	+3·6	—0·9	+6·3	+4·9	—8·5	+4·7
Murree	+4·6	+0·9	—0·4	+0·5	—2·0	+4·5	+3·6	—0·3	+5·9
Simla	+3·4	?	+0·7	+1·4	—1·0	+4·7	+1·7	—1·8	+3·8
Ranikhet	+1·5	+0·4	—0·1	—0·7	—1·0	+2·5	+2·2	—1·4	+2·8
Darjeeling	+1·8	+0·5	+0·8	—1·4	—2·7	+3·8	+0·9	?	+1·4
Mount Abu	+1·5	+0·8	?	—0·8	+0·3	?	+2·9	—0·6	+3·8
Quetta	?	?	—1·0	+1·6	—0·7	+2·5	+2·9	+0·3	+2·7
Bushire	?	—1·3	—0·5	+1·4	—1·1	?	+1·1	—1·0	+2·3
Baghdad								+0·3	+4·0
Kashgar								+2·8	+2·6

The years 1879, 1890, 1892 and 1902 were characterized by excessive temperature at the hill stations in North-Western India.

The excess in each of these years (except 1902) was greatest at the most elevated station, *viz.*, Leh, and decreased in amount eastwards from Murree to Darjeeling. It was also large and marked at Mount Abu, Quetta, Baghdad and Kashgar and hence over the whole area to the north-west of North-Western India.

The two following tables give the variations of the abso-

lute and relative humidity for the same periods at the same stations :—

Station.	Variation from normal of mean absolute humidity during period January and February.								
	1879.	1880.	1882.	1884.	1887.	1890.	1892.	1899.	1902.
	"	"	"	"	"	"	"	"	"
Leh	?	?	?	+·008	?	+·021	+·019	—·029	—·030
Murree	—·018	—·009	+·011	+·018	+·033	—·019	+·005	—·010	—·015
Simla	?	?	?	—·010	—·005	—·018	—·016	—·028	—·036
Ranikhet	—·021	+·001	+·009	+·002	+·011	—·013	+·001	?	—·015
Darjeeling	+·012	+·009	+·005	?	?	+·019	+·014	?	?
Mount Abu	+·009	—·015	?	+·020	—·004	?	+·051	—·037	—·033
Quetta	?	?	—·002	+·021	+·008	—·036	—·029	—·028	—·025
Bushire	?	—·007	—·023	+·030	—·027	+·012	+·045	+·002	—·001
Baghdad						+·046	—·069	—·012	—·026

Station.	Variation from normal of mean relative humidity during period January and February.								
	1879.	1880.	1882.	1884.	1887.	1890.	1892.	1899.	1902.
Leh	?	?	?	+4	?	+ 3	+ 3	—10	—30
Murree	—16	—3	+5	+6	+17	—16	— 6	— 6	—22
Simla	?	?	?	—3	+ 4	—13	— 9	— 6	—20
Ranikhet	—10	—1	+2	—1	+ 5	— 9	— 6	?	—12
Darjeeling	— 1	+3	+1	?	?	+ 4	+ 3	?	?
Mount Abu	+ 2	—4	?	+5	— 1	?	+ 6	— 7	—12
Quetta	?	?	0	+1	+ 4	—16	—14	—13	—15
Bushire	?	+2	—6	+1	+ 2	?	+ 2	?	— 5
Baghdad						+5	—27	+ 5	— 8

The cold weather periods were abnormally dry at the hill stations in 1879, 1890, 1899 and 1902, more especially in the year 1902. This feature was very prominent at Leh in that year.

The following table gives corresponding data for cloud :—

Station.	Variation from normal of mean cloud amount during period January and February.								
	1879.	1880.	1882.	1884.	1887.	1890.	892.	1899.	1902.
Leh	—0·4	—1·1	+1·1	+0·7	0	—0·7	—0·2	—1·0	—2·2
Murree	—0·6	—0·4	+1·1	+0·5	+0·2	—1·0	+0·2	—2·3	—2·0
Simla	?	?	?	0	+0·6	—0·5	—0·3	—1·0	—2·8
Ranikhet	—0·2	+0·1	+0·5	+0·5	—0·1	—1·1	+0·1	—0·9	—2·5
Darjeeling	+0·3	+0·4	—1·9	—1·0	+1·3	+0·2	+0·2	+0·4	—1·0
Mount Abu	—1·0	—0·3	?	—0·6	—1·0	?	—0·4	—1·7	—1·2
Quetta	?	?	+0·7	+0·9	—0·5	—0·7	—1·0	—0·3	—1·4
Baghdad						+0·8	?	+0·8	+0·3
Kashgar								—1·2	—2·7

There was less cloud than usual at these stations in the majority of these years. Cloud was very deficient in 1902, 1899 and 1890. This feature was most marked in 1902 and it is noteworthy that the deficiency was as great at Kashgar as at the Himalayan hill stations.

It will thus be seen that the cold weathers of 1879, 1890 and 1892 resembled more or less closely the cold weather of 1902. They had the following features in common :—

(1) Deficiency of pressure in January and February of each period except February 1902, when there was a large excess of pressure, unique in amount and character.

(2) Increased temperature on the mean of each of the periods. An average excess of 1°·0 of temperature accompanied a deficiency of about ·010″ to ·015″ of pressure.

(3) Large positive vertical pressure anomalies in all these years.

(4) Deficiency of aqueous vapour pressure and of humidity.

(5) Almost entire absence of cold-weather storms.

(6) Very scanty precipitation, barely averaging 10 to 30 per cent. of the normal.

(7) The deficiency of rainfall in all these years, so far as can be ascertained, extended over nearly the whole of the Persian area and a large portion of Central Asia as well as over Northern and Central India and Burma.

It has not been possible to obtain information to enable the limits of the area over which the abnormal features disclosed by the Indian observations for January and February 1902 extended to be ascertained.

The following gives variation data of pressure for the month of January 1902 at certain Russian stations :—

Station.	January 1902.		
		Variation of pressure from normal.	Variation of temperature from normal.
		"	°
Odessa	Mean of 21 days	—·121	+9·7
Batoum	" 12 "	+·040	—1·8
Tiflis	" 12 "	—·015	—0·7
Paku	" 12 "	—·118	+2·2
Tashkent	" 29 "	+·116	+5·0
Irkutsk	" 30 "	—·120	+3·2

So far as can be judged from the more or less imperfect information available, pressure was below the normal during the greater part of the month over the Central Asia anti-cyclone (defined by the isobar of 30·20″), and also probably on the mean of the month, the pressure in

that anti-cyclonic area was from ·05″ to ·10″ lower than usual.

The following table gives corresponding data for February 1902 :—

Station.		February.	
		Variation of pressure from normal.	Variation of temperature from normal.
		″	°
Odessa	Mean of 23 days	+·078	+6·3
Batoum	„ 13 „	+·009	+5·4
Tiflis	„ 13 „	+·137	+4·0
Baku	„ 13 „	+·097	+3·4
Tashkent	„ 28 „	+·252	+2·9
Irkutsk	„ 28 „	+·052	+7·0

The available data indicate that pressure was in excess during by far the greater part of the month in the Central Asia anti-cyclone, and was more or less considerably in excess on the mean of the month. The abnormal pressure conditions in February in that area were hence the inverse or opposite of those of January.

The most noteworthy feature of the period in that area was the large excess of temperature, ranging from 3° to 7°.

It would hence appear that the variations in the intensity of the Central Asia anti-cyclone are not the immediate cause or main factor in the variations of the cold weather rainfall in the Indian monsoon region as opposite or inverse conditions in January and February 1902 accompanied failure of the cold weather rains in both months.

An examination of the data shows that in the south-west monsoons of 1878, 1889 and 1901 pressure decreased steadily to considerably below the normal during the south-west monsoon period. *Pari passu* pressure increased at Mauritius in each of of the three years.

These changes are most simply and probably adequately explained by the assumption of a greater outflow than usual from India southwards during these south-west monsoon and hence giving rise to an accumulation in the southern hemisphere over the Indian ocean. Faint indications of this are afforded by the pressure observations recorded at the Seychelles and Zanzibar. The general pressure conditions at the end of the south-west monsoon of each of these years were :—

(1) Low and deficient pressure in India.

(2) High and excessive pressure at Mauritius.

The following gives actual data illustrating these conditions :—

Month.	Mean pressure variation of Indian land area in		
	1878-79.	1889-90.	1901-02.
	″	″	″
November	—·057	—·037	—·010
December	—·049	—·016	+·019
January	—·009	—·042	—·012

The following gives similar data for Mauritius :—

Month.	Mean pressure variation of Mauritius.		
	1878-79.	1889-90.	1901-02.
	″	″	″
November	+·014	—·008	+·015
December	—·046	+·005	+·008
January	+·031	+·028	+·012

Before proceeding with the general discussion, it is necessary to point out that the chief features of the meteorology of February 1902 were unique. It may be mentioned as a curious and striking example of the principle of repetition which forms a marked feature of Indian meteorology that February 1903 was characterized by the same features but somewhat less broadly marked.

In each of these two months over the large area including the Indian seas north of Lat. 12° S., India, Central Asia, Baluchistan, Afghanistan, Persia and probably Arabia, pressure was very largely above the normal on the mean of the month and temperature also largely above. Allowing for the effect of higher temperature than usual, it is probable that due to some very abnormal and large action there was in February 1902 an excess of pressure of ·12 inch, equivalent to an accumulation of about 7 lbs. per square foot over India, and twice that amount over a considerable portion of Central Asia. This excess of pressure was remarkably persistent throughout the month and can only be explained by an influx from some more or less distant area. This influx must have been accompanied with a corresponding outflow from some other large region. The only evidence at present available suggests that the outflow in the present case was from the south over the Indian Ocean and adjacent land regions but a satisfactory discussion will not be possible before full information is in the hands of investigators.

It is however very noteworthy that the abnormal pressure conditions were opposite in character in the central Asia anti-cyclone in January and February, and that the general character of the weather as regards the prevalence of storms and precipitation was similar in these two months. It hence suggests that the variations of the intensity of the winter anti-cyclone in Central Asia have little or nothing to do in determining the occurrence of cold weather storms, whatever effect its position may have in modifying their place of origin.

The investigation of the phenomena of the cold weather storms has shown conclusively that they are disturbances in the field of the upper return current of the dry or north-east monsoon. The lower air movement in the Indian monsoon region is from north to south. It is feeble in Upper India and the head of the Arabian Sea, but increases in intensity in its passage over the sea area to the neighbourhood of the equator. It crosses that line during the months of January and February and is continued as a horizontal movement to about Lat. 8° or 10° S. when it is absorbed into the belt of calms and is converted into a vertical movement. A portion of the air which rises upwards over that belt is then diverted northwards and forms the upper return movement to the

lower air movement from the north-east. There is undoubtedly a considerable interchange of air between the northern and southern hemispheres. It has not yet been established whether this is due in the cold weather to a balance between the influx into the belt of calms and the outflow northwards above or whether it is due to some more general movement. The interchange is, however, comparatively small in amount in January and February and it is hence probable that the outflow above and inflow below approximately balance in these months. The upper current advances from a region of high temperature in the equatorial belt to a region of relatively low temperature (20° to 30° lower at the earth's surface). The fall of temperature chiefly occurs between Lat. 20° and Lat. 35° N. to the south of the Central Asia anti-cyclone. If the conditions of surface level were similar to those obtaining in North America, *viz.*, a vast plain extending northwards from Lat. 20° to the Arctic circle, this current advancing northwards would tend to descend on approaching and passing into the anti-cyclone. In Southern Asia the conditions are largely modified by the presence of the plateaus of Persia and Baluchistan and by the mountain areas of the Hindu Khush and Himalayas. The temperature conditions of the plateau areas vary very largely. Occasionally temperature rises very largely above the normal. It is hence probable that the disturbance in the upper current is in part a result of these temperature variations and in part of the actions set up by approach to these plateaus and mountain ranges.

These facts, however, in no way suggest an explanation of the great variations in the character of the cold weather in the northern part of the Indian monsoon area. Apparently the explanation must be sought either in some considerable variations of the character of the upper return current or in the position and character of the Central Asia anti-cyclone.

The following remarks are put forward tentatively in the absence of sufficient data to verify them and the conclusions based on them.

The fact that heavier rain during the south-west monsoon period over India generally accompanies and is followed by a deficiency of pressure in India, suggests that the uptake or ascensional movement is greater in such years than usual; and hence also that there is a greater outflow (chiefly southwards) than usual. This is further confirmed by the fact that in such seasons, pressure is generally higher than usual at Mauritius, indicating that there is an accumulation of air over that part of the Indian ocean.

These conditions in such cases are marked in December and tend to persist during the next two months during which the double circulation of the north-east monsoon and south-east trades obtains in the Indian Ocean. Under these pressure conditions, the south-east trades will be, as a rule, stronger than usual and the north-east monsoon feebler than usual. The ascensional movement due to the south-east trades will be also more vigorous over the intermediate region of calms, variable winds and rain squalls, and hence the outflow of both currents will probably occur at a higher level. If such be the case, the northern upper current will be drier and of smaller volume than usual. If this explanation be partially correct, it would follow that years of scanty cold weather rains should follow, as a rule, years of more abundant south-west monsoon rainfall than usual, and also that the rainfall in such cold weather seasons should be larger in amount in the intermediate belt than usual.

The abnormal features of the meteorology of the hot weather in India are largely determined by the character of the previous cold weather. A cold weather of scanty rainfall is almost invariably followed by more disturbed weather in Northern India during March (and occasionally in April), and hence by larger precipitation than usual, which to some extent compensates for the deficiency of the previous three months. This rainfall is also usually, but not invariably, due to the same actions as in the, cold weather, *viz.*, the passage eastwards from the Persian area of shallow depressions or low pressure waves, and is hence a delayed cold weather rainfall.

The precipitation in the Western Himalayas in March 1902 was very heavy, as is shown by the following data:—

Station.	Rainfall.			
	Actual, March 1902.	Normal March.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Leh	0·70	0·22	+0·48	+218
Murree	2·95	4·05	−1·10	− 27
Srinagar	4·20	3·14	+1·06	+ 34
Gilgit	1·23	0·59	+0·64	+108
Dalhousie	2·55	3·93	−1·38	− 35
Dharamsala	4·22	3·83	+0·39	+ 10
Kailang	7·48	3·58	+3·90	+109
Simla	2·18	2·07	+0·11	+ 5
Kilba	6·67	6·00	+0·67	+ 11
Poo	8·01	4·11	+3·90	+ 95
Plach	5·25	2·90	+2·35	+ 81
Kulu	7·46	4·61	+2·85	+ 62
Palampur	5·92	3·75	+2·17	+ 58
Nagar	9·63	5·39	+4·24	+ 79
Joshimath	7·52	3·23	+4·29	+133

The snowfall reports received from district officers and other authorities show that the precipitation in the months of March and April was light to moderate in amount and on the whole, less than the normal in the Afghan and Baluch mountain and plateau areas and Chitral. It was, on the other hand, locally heavy and excessive in the Chamba, Kulu, Simla and Kumaon hill districts.

The following gives mean rainfall data for the month of March for North-Western India:—

Area.	Rainfall.			
	Average actual, March 1902.	Average normal, March.	Variation of actual from normal.	Percentage variation from normal.
	Inch.	Inch.	Inch.	
Punjab	0·61	0·92	—0·31	— 34
Sind	0·01	0·16	—0·15	— 94
Rajputana	0	0·13	—0·13	—100
United Provinces of Agra and Oudh.	0·09	0·36	—0·27	— 75

The snowfall in the Western Himalayas occurred chiefly over the higher elevations, and hence produced no important extension of the area of snowfall accumulation and hence had little effect in reducing temperature. Temperature in March continued almost as largely, on the average of the month, above the normal as in February. The excess averaged 1°·7 for Tropical India and 2°·8 for Extra Tropical India. It was actually greatest in a portion of North-Western India, Baluchistan and Persia for which data are given below:—

Area.	Station.	Variation from normal of		
		Maximum temperature, March 1902.	Minimum temperature, March 1902.	Mean temperature, March 1902.
		°	°	°
Persia	Bushire	+5·7	+5·6	+5·7
	Jask	+6·0	+4·4	+5·2
	Muscat	+5·0	+5·0	+5·0
Baluchistan	Chaman	+7·5	+6·0	+6·8
	Quetta	+6·5	+2·1	+4·3
North-Western India.	Jacobabad	+5·6	+5·9	+5·8
	Hyderabad	+5·4	+2·9	+4·2
	Ajmer	+5·7	+6·3	+6·0
	Pachpadra	+4·9	+6·6	+5·8
	Deesa	+5·9	+4·1	+5·0
	Jaipur	+5·4	+4·4	+4·9

The most important results of the prevailing high temperature in February and March were, firstly, the earlier establishment of local sea winds on the North Bombay coast than usual in February, and secondly, the increased intensity of the sea winds on the Bengal and North Bombay coasts in March and April.

The following gives data:—

Station.	Variation from normal of wind velocity per diem.			
	Actual.		Percentage.	
	March 1902.	April 1902.	March 1902.	April 1902.
	Miles.	Miles.		
False Point	— 8	— 15	— 3	— 4
Saugor Island	+36	+ 88	+12	+21
Veraval	+96	+122	+61	+71
Deesa	—49	— 11	—23	— 5
Mount Abu	+14	+ 32	+ 9	+17
Rajkot	— 2	+ 53	— 1	+20
Bhuj	+29	+ 93	+15	+35

The almost invariable tendency of the conditions stated above, *viz.*, scanty rainfall and higher temperature in the cold weather than usual followed by higher temperature than usual in March is to give rise to a much stronger local indraught into North-Eastern India from the head of the Bay and hence generally to more frequent series of thunderstorms and heavier rainfall than usual in April or May. The following gives comparative data for the hot weather rainfall in North-Eastern India of twelve years more or less resembling the year 1902:—

Year.	Percentage variation of hot weather rainfall from normal in			
	Assam.	East Bengal.	North Bengal.	South-West Bengal.
1879	— 3	—55	—10	—68
1880	—38	+15	+ 7	+ 6
1881	+16	+72	+30	+31
1882	— 4	+ 2	—21	— 8
1890	—15	+ 1	—10	—23
1892	+53	+16	+52	—22
1895	— 4	+19	— 6	—17
1896	+ 9	— 2	+11	—29
1897	— 6	—22	+ 5	— 6
1899	— 1	+29	—10	+ 5
1900	+ 5	—24	—26	—12
1901	—37	—37	—40	— 9
1902	+ 1	+67	+29	+65
Mean of whole	— 2	+ 6	+ 1	— 7

These conditions were strongly shown in the month of April 1902 over North-Eastern India. Series of thunderstorms and nor'westers were unusually frequent and occasionally of considerable to great intensity and were in many cases accompanied in Assam and North Bengal by

hailstorms which caused much damage to tea gardens. The following gives a comparative statement of the rainfall of April 1902 for the whole of Assam and Bengal :—

Division.	Rainfall.			
	Average actual, April 1902.	Average normal, April.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam Surma	20·14	13·42	+6·72	+ 50
„ Hills	12·83	8·00	+4·83	+ 60
„ Brahmaputra	11·28	8·09	+3·19	+ 39
Eastern Bengal	13·52	4·24	+9·28	+219
Deltaic „	5·88	2·31	+3·57	+155
Central „	3·71	1·41	+2·30	+163
North „	4·85	3·97	+0·88	+ 22
Bengal Hills	5·75	4·35	+1·40	+ 32
Orissa	3·13	1·23	+1·90	+154
Chota Nagpur	0·95	0·85	+0·10	+ 12
Bihar (South)	0·51	0·29	+0·22	+ 76
„ (North)	0·77	0·80	−0·03	− 4

An important result of these storms was to reduce temperature more or less considerably below the normal on the average of the month in North-Eastern India whilst it remained in excess over the remainder of India. The following data illustrate the first feature :—

Division.	Variation from normal of		
	Maximum temperature, April 1902.	Minimum temperature, April 1902.	Mean temperature, April 1902.
	°	°	°
Assam Surma	−2·8	−1·6	−2·2
„ Brahmaputra	−5·1	−2·4	−3·8
Eastern Bengal	−3·2	−2·4	−2·8
Deltaic „	−3·1	−1·3	−2·2
Central „	−5·6	−2·1	−3·9
North „	−5·4	−1·0	−3·2
Bengal Hills	−1·9	−1·4	−1·7
Orissa	−2·4	−0·1	−1·3
Chota Nagpur	−1·2	+0·3	−0·5
Bihar (South)	−2·0	+0·4	−0·8
„ (North)	−4·5	−0·3	−2·4

Over the remainder of India weather was on the whole drier and warmer than usual. Temperature was most largely in excess in the same areas as in March. The following gives comparative data for representative stations at which the temperature was more than 2° in excess in April :—

Station.	Variation from normal of		
	Maximum temperature, April 1902.	Minimum temperature, April 1902.	Mean temperature, April 1902.
	°	°	°
Bushire	+3·4	+3·1	+3·3
Baghdad	+2·7	+3·3	+3·0
Jask	+1·4	+2·9	+2·2
Kurrachee	+2·9	+5·4	+4·2
Deesa	+2·5	+4·0	+3·3
Hyderabad	+2·4	+3·1	+2·8
Jacobabad	+2·0	+3·0	+2·5
Ajmer	+0·7	+3·6	+2·2
Rajkot	+0·9	+3·8	+2·4
Bhuj	+1·7	+2·8	+2·3

Similar conditions continued throughout the month of May.

The following statement shows that the indraught from the adjacent sea areas across the North Bombay and Bengal coasts was larger than usual :—

Station.	Variation from normal of wind velocity per diem.	
	Actual, May 1902.	Percentage, May 1902.
	Miles.	
Saugor Island	+ 34	+ 9
Veraval	+ 22	+10
Deesa	+ 2	+ 1
Mount Abu	+ 76	+31
Rajkot	+ 39	+11
Bhuj	+170	+46

The rainfall in North-Eastern India, due to the same causes and actions as in April, was in excess over practi-

cally the same areas, but to a smaller extent relatively to the normal. The following gives data:—

Division.	Rainfall			
	Average actual, May 1902.	Average normal, May.	Variation of actual from normal.	Percentage variation from normal.
	Inches.	Inches.	Inches.	
Assam Surma	15·38	18·00	−2·62	−15
,, Hills	11·12	15·05	−3·93	−26
,, Brahmaputra	7·97	12·03	−4·06	−34
Eastern Bengal	12·08	10·45	+2·63	+25
Deltaic ,,	9·45	6·16	+3·29	+53
Central ,,	5·35	4·57	+0·78	+17
North ,,	11·71	10·65	+1·06	+10
Bengal Hills	7·80	8·45	−0·65	−8
Orissa	3·22	3·74	−0·52	−14
Chota Nagpur	2·31	2·22	+0·09	+4
South Bihar	0·83	1·42	−0·59	−42
North ,,	3·64	3·07	+0·57	+19

The mean temperature of the month in North Eastern India was, as in April, below the normal but to a smaller amount than in that month. The following gives data:—

Division.	Variation from normal of		
	Maximum temperature, May 1902.	Minimum temperature, May 1902.	Mean temperature, May 1902.
	°	°	°
Assam Surma	−0·8?	+1·0?	+0·4?
,, Brahmaputra	−0·4	−0·2	−0·3
Eastern Bengal	−1·8	−0·9	−1·4
Deltaic ,,	−1·8	−0·9	−1·4
Central ,,	−3·1	−1·2	−2·2
North ,,	−1·1	−0·7	−0·9
Bengal Hills	−0·1	−1·2	−0·7
Orissa	−1·5	−0·2	−0·9
Chota Nagpur	−2·2	−1·5	−1·9
South Bihar	−0·5	+0·9	+0·2
North ,,	−2·1	−0·2	−1·2

Over the remainder of India, temperature in May was generally above the average, but the variations were small and less than 2° except in the areas for which data are given below:—

Station.	Variation from normal of		
	Maximum temperature, May 1902.	Minimum temperature, May 1902.	Mean temperature, May 1902.
	°	°	°
Baghdad	+7·8	+4·0	+5·9
Ispahan	+3·2	+2·6	+2·9
Kashgar	+2·9	+1·8	+2·4
Peshawar	+4·1	+2·7	+3·4
Mooltan	+2·8	+4·0	+3·4
Rawalpindi	+3·4	+3·0	+3·2
Sialkot	+2·1	+4·1	+3·1
Lahore	0	+4·5	+2·3
Dera Ismail Khan	+2·6	+1·6	+2·1
Jacobabad	+3·5	+2·5	+3·0
Pachmarhi	+3·2	+1·8	+2·5
Nagpur	+1·4	+2·8	+2·1
Ahmednagar	+3·4	+1·5	+2·5
Sholapur	+1·4	+2·8	+2·1
Hyderabad Deccan	+2·0	+4·5	+3·3
Secunderabad	+3·2	+3·2	+3·2
Gulbarga	+2·4	+2·6	+2·5

The preceding remarks have shown that the chief features of the hot weather were very persistent and that they were either the direct continuation of features and conditions of the cold weather period, or that they were the result of special actions set up locally in the hot weather due to these antecedent persistent conditions.

The chief persistent features were as follows:—

(1) Higher temperature than usual over the whole of the interior of North-Western and Central India, the North Deccan, Baluchistan, Afghanistan, Persia and probably the greater part of Central Asia.

(2) Decreased humidity and cloud in the same areas.

(3) Precipitation below the small normal of the period.

The chief features of the local variations from these general conditions were in the area including the greater part of North Eastern India and Burma. These local features are:—

(1) Stronger sea winds than usual on the North Bombay and Bengal coasts.

(2) More frequent series of thunder storms in North-Eastern India during the months of April and May giving increased rainfall.

(3) Persistent lower temperature than usual.

(4) Increased humidity.

(5) Large amount of cloud.

(6) Increased strength of the lower air circulation in India, more especially in the open coast districts of Bengal, North Bombay and Lower Burma.

The only remaining point to be noticed is the effect of these conditions upon the general and local pressure features of the country.

The following gives data of the general pressure and temperature conditions in India.:—

Month.	Variation from normal of					
	Pressure			Temperature		
	Extra Tropical India.	Tropical India.	Whole India.	Extra Tropical India.	Tropical India.	Whole India.
	"	"	"	°	°	°
March	—·017	—·009	—·013	+2·8	+1·7	+2·3
April	—·014	0	—·007	+0·2	+0·9	+0·5
May	0	+·008	+·004	+1·0	+1·4	+1·2

The pressure variations were small in amount, and in March and April were related directly to the temperature variations.

This is an illustration of the fact that the meteorology of India is more local in character and more independent of external actions in the hot weather months than during any other period of the year.

An examination of the charts for the period shows that the larger local variations were dependent directly upon the temperature conditions of India. The local variations were very small in March, a month of general and similar excess of temperature. In April and May, pressure was locally in slight to moderate excess over the area of lower temperature than usual in North-Eastern India and was lower relatively to the general condition in the greater part of the area of increased temperature, more especially in the Punjab, Sind and Rajputana.

The conditions in India at the end of the period were favourable to the advance of the south-west monsoon currents.

The meteorology of the south-west monsoon period of 1902 is of singular interest. During the first half the rainfalls due to the Arabian Sea current over a large part of its field of extension was scanty and was interrupted by long breaks of dry, sunny weather, to such an extent, in fact, that there were fears of famine over an area as large as in 1896. A remarkable change occurred in the third week of August. Abundant rain fell during the next five or six weeks over the areas previously threatened with drought and famine, and the season was as a whole favourable over the country generally. Figures are given in the four following tables to illustrate the contrast between the amount and distribution of the rainfall of the two periods. The first table gives variation data of the rainfall of the first half of the monsoon period in the chief areas dependent on the Bombay monsoon current:—

Field of Bombay current.	Province.	Division.	Variation of rainfall from normal. Actual variation. June, 1902.	July, 1902.	Period, June and July.	Percentage variation. June, 1902.	July, 1902.	Period, June and July.
			Inches.	Inches.	Inches.			
	Punjab and North-West Frontier Province.	South Punjab	+ 0·78	— 1·59	— 0·81	+ 48	—34	—13
		Central Punjab	+ 1·10	— 1·31	— 0·21	+ 70	—26	— 3
		Punjab Submontane.	— 0·55	— 1·45	— 2·00	— 20	—17	—18
		North Punjab	+ 1·19	— 0·55	+ 0·64	+107	—12	+11
		West do.	+ 0·66	— 1·03	— 0·37	+ 96	—40	—11
	Bombay and Malabar Coast Districts (Madras).	Malabar	—15·21	+21·35	+ 6·14	— 43	+60	+ 9
		Madras South Central.	— 0·37	— 0·26	— 0·63	— 19	—15	—17
		Mysore	— 0·90	+ 1·10	+ 0·20	— 22	+17	+ 2
		Konkan	—10·54	— 2·69	—13·23	— 40	— 7	—20
		Bombay Deccan	— 0·68	— 1·04	— 1·72	— 11	—12	—12
		Hyderabad North	— 2·55	— 2·91	— 5·46	— 47	—35	—40
		Khandesh	— 3·05	— 0·35	— 3·40	— 54	— 4	—24
	Central Provinces and Berar.	Berar	— 4·13	+ 1·52	— 2·61	— 73	+16	—17
		Central Provinces West.	— 5·79	— 2·59	— 8·38	— 81	—20	—41
		Central Provinces Central.	— 6·38	— 2·66	— 9·04	— 82	—16	—37
		Central Provinces East.	— 7·33	+ 0·56	— 6·77	— 84	+ 3	—27
	Bombay (North).	Gujarat	— 5·46	— 4·18	— 9·64	— 80	—25	—41
		Kathiawar and Cutch.	— 3·49	— 6·37	— 9·86	— 83	—60	—66
		Sind	+ 1·90	— 2·16	— 0·26	+463	—90	— 9
	Rajputana and Central India.	Central India East	— 5·71	+ 5·79	+ 0·08	— 84	+54	0
		Rajputana East, Central India West.	— 1·27	+ 2·94	+ 1·67	— 45	+36	+15
		West Rajputana	+ 0·38	— 2·36	— 1·98	+ 27	—6	—38

The chief inferences from the above are:—

(1) The rainfall over the northern half of the field of the Bombay current including the western and central districts of the Central Provinces, Gujarat, Kathiawar, Cutch and West Rajputana was very scanty.

(2) The rainfall over the Konkan, the eastern districts of the Central Provinces, Berar and Khandesh was in defect to a moderate or considerable extent.

(3) The rainfall over the West Deccan and Southern India was about normal.

In addition the following peculiarities obtained:—

(1) The first heavy burst of rain due to the Bombay current was later than usual. The delay was about seven days in the North Konkan and about three weeks in the Central Provinces, Central India, Rajputana, Gujarat and Kathiawar.

(2) This part of the season was accompanied by more frequent and prolonged breaks than is usual. The most prolonged of these breaks in North Bombay, Rajputana and Central India were from the 17th June to the 4th July, the 20th to the end of July, and the 3rd to the 19th of August.

(3) The weather in the Arabian Sea during the period was such as to indicate that the monsoon current in that area was feebler and of less volume than usual.

The facts may hence be summed up that the Arabian Sea current was in that sea area as a horizontal air movement feebler than usual, and was as a rain-giving current greatly below its normal value. It is not possible at the present stage to ascertain whether, as a whole, the current was of less vertical thickness or volume than usual, or whether it was less charged with aqueous vapour.

The following gives similar data for the rainfall of June and July in the field of the Bay current :—

Province.	Division.	Variation of rainfall from normal. Actual variation. June, 1902.	July, 1902.	Period June and July.	Percentage variation. June, 1902.	July, 1902.	Period June and July.
		Inches	Inches.	Inches.			
Field of Bengal current. Burma	Tenasserim	—3·86	+ 0·04	—3·82	—10	0	— 5
	Lower Burma Deltaic.	—4·95	+ 3·32	—1·63	—23	+14	— 4
	Central Burma	—1·11	+ 4·56	+3·45	—11	+36	+15
	Upper Burma	+1·49	+ 0·20	+1·69	+23	+ 3	+13
	Arakan	—5·35	+19·77	+14·42	—13	+41	+16
Bengal and Assam.	Eastern Bengal	+5·48	+ 5·56	+11·04	+30	+30	+30
	Assam Surma	+6·74	— 4·39	+2·35	+27	—20	+ 5
	Do. Brahamaputra.	+2·21	— 0·91	+1·30	+15	— 5	+ 4
	Deltaic Bengal	—3·19	+ 2·82	—0·37	—29	+24	— 2
	Central Bengal	—2·51	+ 1·87	—0·64	—24	+15	— 3
	North Bengal	—1·99	+2·94	+0·95	—10	+14	+ 2
	Orissa	—4·27	+ 7·53	+3·26	—45	+63	+15
	Chota Nagpur	—6·18	+ 2·97	—3·21	—67	+21	—14
	South Bihar	—3·77	+ 1·25	—2·52	—54	+10	—13
	North Bihar	—3·51	— 0·06	—3·57	—39	0	—16
United Provinces of Agra and Oudh.	United Provinces East.	—4·25	+ 6·23	+1·98	—85	+53	+12
	South Oudh	—3·98	+ 2·98	—1·00	—82	+27	— 6
	North Oudh	—4·02	+ 5·13	+1·11	—70	+42	+ 6
	United Provinces Central.	—3·79	+ 2·89	—0·90	—86	+26	— 6
	United Provinces West.	—0·56	+ 2·80	+2·24	—21	+38	+22
	United Provinces East Submontane	—4·59	+4·72	+0·13	—70	+37	+ 1
	United Provinces West Submontane.	—1·93	+ 0·57	—1·36	—34	+ 4	— 7
	South-East Punjab	+0·33	+1·32	+1·65	+14	+21	+19

The chief facts respecting the Bay current and its extension in Northern India during this period are as follows :—

(1) The rainfall was practically normal over Burma and Bengal in June, the rains commencing about their normal date. It was generally in moderate excess over the whole of that area in July.

(2) The rains were greatly delayed in Bihar, Chota Nagpur and the United Provinces and the rainfall of June was hence scanty and in large defect. The rainfall was, on the other hand, abundant in July over the whole of that area.

(3) On the mean of the period the rainfall was normal or in moderate excess over the greater part of the area including Burma, Bengal, Assam, and also the United Provinces. It was about 14 per cent. in defect in Bihar and Chota Nagpur, the only areas in which the deficiency exceeded 10 per cent.

(4) The chief inferences from the above are that the Bay current was below its normal strength in June and was more largely determined to East Bengal and Assam than usual, and hence the rainfall was very deficient in the Gangetic Plain and Chota Nagpur, and that it was in July strong and vigorous as a rain-giving current and gave abundant rain over nearly the whole of Northern India and Burma. It was also, as shown by the comparative absence of cyclonic storms, steadier than usual in July.

The following table gives similar information of the rainfall in the field of the Bombay current for the months of August and September :—

Province.	Division.	Variation of rainfall from normal. Actual variation. August, 1902.	September, 1902.	Period August and September.	Percentage variation. August, 1902.	September, 1902.	Period August and September.
		Inches.	Inches.	Inches.			
Field of Bombay Current. Punjab and North-West Frontier Province.	South Punjab	—1·12	— 0·40	— 2·02	—27	— 38	— 31
	Central do.	—1·19	+ 0·58	— 0·61	—25	+ 30	— 9
	Punjab Submontane.	—3·72	— 0·32	— 4·04	—45	— 9	— 34
	North Punjab	—1·21	+ 0·59	— 0·62	—24	+ 30	— 9
	West do.	—0·15	+ 0·15	0	— 7	+ 19	0
Bombay and Malabar Coast Districts (Madras).	Malabar	—5·03	+14·74	+ 9·71	—25	+158	+ 33
	Mysore	—1·89	+ 0·55	— 1·34	—37	+ 11	— 14
	Konkan	—4·59	+10·72	+ 6·13	—18	+ 79	+ 16
	Bombay Deccan	—2·33	— 0·97	— 3·30	—39	— 16	— 28
	Hyderabad North	—1·39	+ 1·23	— 0·16	—18	+ 15	— 1
	Khandesh	—1·51	+ 0·32	— 1·19	—24	+ 5	— 9
Central Provinces and Berar.	Berar	—0·11	— 1·93	— 2·04	— 2	— 32	— 16
	Central Provinces West.	—1·45	— 1·90	— 3·35	—14	— 22	— 17
	Central Provinces Central.	—5·52	+ 1·70	— 3·82	—40	+ 21	— 17
	Central Provinces East.	—1·98	— 0·84	— 2·82	—14	— 11	— 13
Bombay (North).	Gujarat	+4·23	+ 6·26	+10·49	+43	+ 95	+ 64
	Kathiawar and Cutch.	+1·84	+ 3·67	+ 5·51	+27	+ 83	+ 49
	Sind	+0·23	+ 2·72	+ 2·95	+10	+579	+110
Rajputana and Central India.	Central India East	—4·21	+ 1·90	— 2·31	—38	+ 32	— 14
	Rajputana East, Central India West.	—3·15	+ 0·93	— 2·22	—42	+ 23	— 19
	West Rajputana	—0·20	— 0·09	— 0·29	— 6	— 4	— 5

The following are the chief inferences:—

(1) The total rainfall of the month of August was more or less below the normal, except in Sind, Gujarat and Kathiawar which received excessive rain during the last ten days of the month from the storms which passed over those districts. The deficiency was due to the prevalence of a general break over North-Western and Western India from the 1st to the 18th of the month.

(2) The rainfall of the month of September was generally in considerable to very large excess. The excess was more than 75 per cent. in the coast districts including Malabar and the Konkan, and in Gujarat, Kathiawar, Cutch and Sind, due to heavy downpours accompanying the passage of cyclonic storms from the Bay across those areas.

(3) The rainfall of the period was in large excess, relatively to the normal, in Malabar, Gujarat, Kathiawar and Sind, and in moderate excess in the Konkan and in slight to moderate defect over the remainder of the field of the Bombay current.

The most important inferences are that the Bombay or Arabian sea current was exceedingly feeble during the first fortnight of August, but that it rapidly increased in strength in the third week of August, and was unusually strong and vigorous until the end of September and gave generally abundant rain over its whole area of extension to the West and North Punjab. It also withdrew later than usual from Upper India. The chief feature of the local relative distribution was the excessive rainfall in the areas most largely affected by the storms of the period, including Sind, Gujarat, Kathiawar and Cutch.

The following table gives similar data for the second half of the monsoon period of 1902 for the areas usually dependent for their rainfall on the Bay monsoon current:—

Field of Bengal Current	Province.	Division.	Variation of rainfall from normal. Actual variation. August, 1902.	September, 1902.	Period, August and September.	Percentage variation. August, 1902.	September 1902.	Period, August and September.
			Inches.	Inches.	Inches.			
	Burma	Tenasserim	— 4·63	+ 2·86	— 1·77	—11	+ 9	— 2
		Lower Deltaic Burma	— 5·09	— 0·97	— 6·06	—23	— 6	—16
		Central Burma	— 1·92	+ 0·89	— 1·03	—17	+10	— 5
		Upper Burma	+ 0·93	+ 2·41	+ 3·34	+13	+32	+23
		Arakán	—15·94	+ 2·98	— 12·96	—40	+15	—22
	Bengal and Assam.	Eastern Bengal	— 1·32	+ 1·46	+ 0·14	— 8	+13	0
		Assam Surma	— 1·75	— 1·06	— 2·81	— 8	— 7	— 7
		Do. Brahmaputra.	+ 3·90	+ 5·53	+ 9·43	+27	+49	+36
		Deltaic Bengal	— 0·69	— 0·27	— 0·96	— 6	— 3	— 4
Field of Bengal Current—*contd.*	Bengal and Assam.	Central Bengal	— 1·85	+ 2·41	+ 0·56	—16	+24	+ 3
		North do.	+ 2·76	+ 10·35	+ 13·11	+16	+58	+37
		Orissa	+ 0·43	— 3·28	— 2·85	+ 4	—33	—13
		Chota Nagpur	— 1·80	+ 3·58	+ 1·78	—18	+43	+10
		South Bihar	— 4·42	+ 3·96	— 0·46	—38	+53	— 2
		North do.	— 2·54	+ 4·71	+ 2·17	—21	+45	+10
	United Provinces of Agra and Oudh.	United Provinces East.	— 5·29	+ 3·97	— 1·32	—46	+58	— 7
		South Oudh	— 5·74	+ 3·16	— 2·58	—51	+49	—15
		North do.	— 4·65	+ 2·55	— 2·10	—40	+34	—11
		United Provinces Central.	— 6·25	+ 2·68	— 3·57	—59	+48	—22
		United Provinces West.	— 0·76	— 0·89	— 1·65	—10	—21	—14
		United Provinces East Submontane.	— 5·22	+ 2·57	— 2·65	—45	+32	—13
		United Provinces West Submontane.	— 2·69	— 0·39	— 3·08	—19	— 6	—15
		South-East Punjab.	— 1·55	— 0·94	— 2·49	—24	—25	—24

The following are the chief inferences from the preceding data—

(1) The rainfall of the month of August was in considerable to large defect over the South-East Punjab, the United Provinces and South Bihar, due to the occurrence of a marked break during the first fortnight of the month The rainfall was, on the other hand, normal or in slight excess in Upper Burma, Bengal and Assam during this period.

(2) The rainfall was abundant in September over by far the greater part of the area and the excess was, relatively to the normal, largest in the United Provinces, Bihar, North Bengal, the Assam Valley and Chota Nagpur.

(3) The rainfall of the period varied somewhat irregularly from the normal but was generally in excess in Bihar, Chota Nagpur, Bengal, Assam and Upper Burma and was in moderate defect (7 to 22 per cent.) in the United Provinces.

(4) The Bay current was hence feeble in the first half of August. It was vigorous during the remainder of August and in September. It was, however, more unsteady than usual, cyclonic storms of slight to moderate intensity following in rapid succession.

The discussion of the meteorology of India in the preceding pages has shown clearly—

(1) That the conditions in India in the latter part of May and the commencement of June were such as are usually associated with an early and strong monsoon, more especially as judged by the data of the period 1875—1892, antecedent to the period of anomalous and remarkable conditions obtaining from 1892 to 1902.

(2) That there was no large or rapid change of meteorological conditions in India prior to the remarkable

change in the character of the Arabian Sea monsoon in the third week of August. The conditions then prevailing were such as invariably accompany a prolonged break in the rains, and are rather effects and not causes of the breaks. It hence follows that the causes, actions or conditions determining the weakness of the Arabian Sea current in the first half of the period and its strength during the second half are not to be sought for in India, or the Indian monsoon land area, but most probably in the remaining portion of the area of the complete monsoon air circulation, *viz.*, the south-east trades region of the Indian Ocean.

The pressure conditions in the Indian Ocean were very noteworthy in 1902. The following gives monthly variations for Mauritius of that year and of the years 1893 and 1894—years of abundant rain in India :—

Month.	Variation from normal of pressure at Mauritius.		
	1902.	1894.	1893.
	"	"	"
January	+·012	—·075	—·097
February	—·043	—·064	+·038
March	+·028	—·017	—·048
April	—·012	—·007	+·014
May	—·019	—·016	+·019
June	—·054	—·016	—·013
July	—·031	—·034	+·007
August	—·058	—·018	+·068
September	—·022	—·036	—·006
October	—·032	—·050	—·014
November	—·028	+·010	+·026
December	—·091	—·079	+·009

Similar data are given for the Seychelles and Zanzibar for the years 1902, 1894 and 1893 (the Seychelles observatory was opened in the year 1894) :—

Month.	Variation from normal of pressure.				
	Zanzibar.			Seychelles.	
	1902.	1894.	1893.	1902.	1894.
	"	"	"	"	"
January	+·011	+·007	—·034	+·003	No
February	+·068	+·006	+·020	+·053	record.
March	+·010	+·019	+·008	+·005	+·007
April	+·008	+·002	+·007	—·009	+·004
May	—·009	—·004	+·002	—·016	—·005
June	—·029	+·017	?	+·002	+·010
July	—·031	—·023	—·013	—·028	—·033
August	—·035	—·028	+·045	—·035	—·017
September	—·001	—·021	—·015	—·008	—·010
October	+·021	—·023	—·007	—·006	—·007
November	—·005	—·015	+·025	—·027	+·004
December	—·023	—·023	+·011	—·032	—·003

The preceding data show that in 1902 there was an almost continuous deficiency of pressure in the Indian Ocean (so far as it is represented by the stations of Mauritius, Zanzibar and the Seychelles) and that this deficiency was very marked during a portion of the monsoon period and was considerably greater at Mauritius than at the Seychelles. These pressure conditions would give feebler gradients than usual not only over the Indian Ocean but also over the Indian seas, more especially from June to August when they were most marked.

The following gives a fuller statement of the pressure and other conditions in the Indian Ocean and seas, being weekly data of pressure and wind at the Seychelles and Mauritius for the period from the middle of May to the middle of September 1902, including the usual period of the full extension of the monsoon currents over India :—

Week ending.	Seychelles (10 A.M.).			Mauritius (9 A.M.).		
	Pressure variation.	Actual wind direction.	Actual wind velocity per diem.	Pressure variation.	Actual wind direction.	Actual wind velocity per diem.
	"		Miles.	"		Miles.
17th May 1902	+·013	S E	240	+·048	E S E	264
24th " "	+·010	S E	192	—·035	Var.	216
31st " "	—·013	S E	240	—·020	E S E	216
7th June "	—·037	S E	168	—·028	S E	216
14th " "	—·031	S	240	—·105	S E	240
21st " "	+·003	E	240	—·048	E S E	216
28th " "	+·026	S E	216	—·019	Var.	240
5th July "	+·008	S E	192	+·021	E S E	336
12th " "	—·050	S S E	240	—·070	E S E	240
19th " "	—·055	S	240	—·079	E S E	264
26th " "	+·025	S E	264	—·039	Var.	168
2nd August "	—·033	S E	288	—·029	E S E	216
9th " "	—·023	S E	264	—·080	Var.	168
16th " "	—·071	S E	264	—·070	E S E	216
23rd " "	—·043	S E	240	—·048	E S E	216
30th " "	—·065	S E	240	—·045	E S E	288
6th Sept. "	—·017	S E	216	—·043	E S E	192
13th " "	+·032	S E	360	+·060	E S E	288

The preceding data show that the abnormal monsoon of 1902 accompanied abnormal conditions in the Indian Ocean unfavourable to a strong monsoon, although in India the conditions were favourable. This fact is almost sufficient without further confirmation to establish that the

abnormal features of the monsoon of 1902 were due primarily, if not entirely, to abnormal features in the Indian Ocean.

A striking confirmation of this hypothesis is furnished by the correspondence between the pressure gradients in the Indian Ocean and the distribution of the rainfall in India, as shown by the following table which gives variation data of the total gradient or difference of pressure between Mauritius and the Seychelles from the normal difference, week by week, from the first week in June to the second week of September.

Week ending	Variations of gradient between Mauritius and the Seychelles.	General character of weather in India.
	"	
7th June 1902	+·009	Monsoon set in on the west coast.
14th " "	—·074	First break from 17th to the 29th.
21st " "	—·051	
28th " "	—·045	
5th July "	+·013	Fairly general rain in Northern and Central India and the Deccan.
12th " "	—·020	
19th " "	—·024	Second break from the 21st to the end of July.
26th " "	—·064	
2nd August "	+·004	Third break from the 3rd August to the 18th August.
9th " "	—·057	
16th " "	+·001	
23rd " "	—·005	Abundant rain over nearly the whole country.
30th " "	+·020	
6th Sept. "	—·026	
13th " "	+·028	

The data of the preceding table indicate a very close correspondence and direct relation between the pressure gradients as given by the observations of Mauritius and the Seychelles (and hence almost certainly of the gradients and mean air motion of the south-east trades region over the Indian Ocean) and the strength of the monsoon and the amount of the rainfall in India from June to September 1902.

The longest and most general and severe break was from the 3rd to the 18th August. Lala Hem Raj in his account of the meteorology of the month (*vide* monthly weather review for August 1902) has called attention to the extraordinary and abnormal direction of the air movement in the western half of the equatorial belt as given by the data of the Seychelles observatory and of ships passing through the area during the period in question in the following remarks and data. The following gives his remarks:

"The following table shows the abnormal character of the air movement in the western half of the Equatorial belt and the west of the Arabian Sea in the first sixteen days of August 1902 during which period the monsoon currents were much below their normal intensity:—

Area.	Region comprised between. Latitude.	Region comprised between. Longitude.	Actual mean wind direction during first sixteen days of August 1902.	Normal mean wind direction, August.
South-west and west of the Arabian Sea.	4° N to 20° N	48° E to 52° E	S 16° W	S 25° W
	4° N to 20° N	52° E to 56° E	S 26° W	S 39° W
	4° N to 20° N	56° E to 60° E	S 36° W	S 47° W
West Equatorial Belt.	12° S to 4° N	44° E to 48° E	S 33° E	S 19° E
	12° S to 4° N	48° E to 52° E	S 2° W	S 11° E
	12° S to 4° N	52° E to 56° E	S 29° E	S 22° E
	12° S to 4° N	56° E to 60° E	S 37° E	S 27° E
Central Equatorial Belt. Northern Section.	4° S to 4° N	60° E to 64° E	N 68° E	S 19° E
	4° S to 4° N	64° E to 68° E	N 45° E	S 2° E
	4° S to 4° N	68° E to 72° E	N 56° E	S 49° E
	4° S to 4° N	72° E to 76° E	N 19° E	S 46° E
	4° S to 4° N	76° E to 80° E	W	S 32° W
Central Equatorial Belt. Southern Section.	12° S to 4° S	60° E to 64° E	S 45° E	S 51° E
	12° S to 4° S	64° E to 68° E	No data	S 48° E
	12° S to 4° S	68° E to 72° E	S 45° E	S 47° E
	12° S to 4° S	72° E to 76° E	No data	S 42° E
	12° S to 4° S	76° E to 80° E	No data	S 67° E

"These data are very interesting as showing that the winds were more easterly than usual in the west of the Equatorial belt and more southerly in the south-west and west of the Arabian Sea. The air movement was even more abnormal in the northern section of the Central Equatorial belt, where north-east, instead of the usual southerly to south-easterly, winds prevailed. On the other hand, in the southern section the air movement was, as far as can be ascertained, practically normal in direction.

"In this connection, it may be noted that during this period pressure was persistently in defect in South Arabia while it was in steady excess in Western India and the neighbouring sea area."

It is not necessary to give further data as the previous have been sufficient to establish fully that the variations in the strength of the Arabian sea current and of the rainfall in the field of extension of that current in India were primarily and directly related to variations in the strength of the whole air movement over the Indian Ocean and seas and more especially to the movement in the Indian Ocean.

It is an interesting problem for future enquiry as to the physical actions which give rise to these very large variations of the strength and character of the air movement over the south-east trades region and hence also of the south-west monsoon movement and rainfall. It must however lie over, in the absence of sufficient data, for future enquiry.

It is interesting to note that the variations of level of the Central African lake gauges and the flood gauges of the Nile in 1902 were similar to those of the

total rainfall to date in Western India due to the Arabian Sea monsoon current. The flood level in the Blue Nile (which brings down the Abyssinian rainfall) was about the same in 1902 as in 1900 from June to the middle of August and higher than that of 1901. A rapid increase occurred in the latter half of August and the first half of September and the flood level was considerably higher than that of the same periods of the two previous years, evidencing that Abyssinia, as Western India, received heavy and prolonged rainfall during that period.

The flood level of the White Nile was, on the other hand, lower from June to September 1902 than throughout the same period in the previous three years, almost certainly due to the scanty rainfall and the great weakness of the south-east trades in April, May and June, the period of the year when the Equatorial Lake Region receives its heaviest and most general rain.

The discussion has shown clearly that the Bay current, as measured by the total rainfall it gave to its field of extension, was of about normal strength whereas the Bombay current was considerably below, as estimated by the same method of measurement. During the past 27 years both currents were, as judged by this standard, either normal or stronger than usual in eight years, and feebler than usual in five years. Hence they varied in the same direction from the normal in thirteen out of twenty-seven years. The Bombay current was strong and the Bengal current weak in six years, and the Bombay current weak and the Bengal current strong in the remaining eight years. There is, it may be remarked, a very strong tendency for the same features to be repeated for several years in succession. For example, the Bombay current was strong and the Bengal current weak from 1882 to 1884 and in 1895 and 1896. The inverse relation was the case in 1879 and 1880, in 1885 and 1886 and again from 1898 to 1902 (with the exception of 1901). Both currents were very strong from 1892 to 1894.

The causes or indications for these relative variations have not yet been clearly determined. The Bombay current appears to be more largely and directly affected by variations in the south-east trades region than the Bay current. In the year 1902, the deficiency in the total rainfall due to the Arabian Sea was due solely to the weakness of the whole circulation of the south-east trades and south-west monsoon during more than half of its normal period. In some years of similar features, as in 1885, the delay and weakness of the monsoon was associated with heavy, prolonged and continuous snowfall during the cold and hot weather periods in the Western Himalayas. This was not the case in 1902 as the snowfall of the cold weather or winter of 1902 was one of the lightest on record. It is hence probable that actions and conditions in the Indian Ocean are primary, and conditions in India, such as snowfall in the Himalayas, subsidiary and are of small importance relatively to the former except when the conditions in the Indian Ocean and Seas are approximately normal.

There are undoubtedly considerable differences between the monsoon air movements in the Arabian sea and Bay of Bengal, more especially, in their dependence on the south-east trades system. That portion of the south-east trades which is continued across the Equator and passes into the Arabian sea is of much greater volume and is much less modified by the action of land masses than that which passes into the Bay of Bengal. The south-east trades air movement to the south of the Bay, and west of the East Indian Islands and Australia is, as shown by data collected from ships, more variable than in the Indian Ocean area further to the west. No investigation has as yet been made into the variations of the movement in the eastern half of the Equatorial belt from year to year and their relations to variations in the strength of the Bay of Bengal monsoon current.

It is noteworthy that amidst much diversity between the two monsoon currents some of the larger variations are common to both. Thus, intense cyclonic storms occurred in each of these seas in the first week of May 1902, probably due to some common phase of disturbance which passed northward giving rise to similar effects in each sea area. Again, the impulse giving rise to the commencement of the monsoon in both sea areas was practically simultaneous in the two areas, and due to the same general actions passing northwards from the equatorial belt. Similarly, the prolonged break of the 3rd to the 18th August was almost as marked in North-Eastern as in Western India, and terminated simultaneously in the two areas.

These general variations originate from similar general actions which hence determine similar broad features, but are subject to modification by subordinate causes or actions. The two currents may hence differ very considerably in relative strength not only throughout a whole monsoon period, but at different stages of the monsoon.

The meteorology of the retreating south-west monsoon period in 1902 presents several features of interest.

The monsoon currents withdrew unusually rapidly from North-Western India in the last week of September. A rapid rise of pressure occurred in the Persian region followed by the extension of light northerly dry winds and clear skies into North-Western India. Pressure was for some time afterwards considerably above the normal in the Persian region but fluctuated very rapidly during the second half of October, November and December.

North-Eastern India and Burma continued to receive occasional rain until the third week of October when pressure increased rapidly in that area, establishing moderate gradients for northerly winds in Bengal and Burma and the north of the Bay. Pressure was almost continously above the normal during the remainder of the period and dry clear weather obtained steadily over those areas until the end of the year.

Weather was less disturbed than usual in the Bay. A moderate storm formed in the south of the Bay in the last week of October much further south than usual due to the persistence of high pressure conditions in North-Eastern India and Upper Burma. It is noteworthy that it formed almost simultaneously with a much larger storm in the Arabian Sea. The Bay storm passed westwards to the Coromandel Coast along the track usually followed by storms in the latter half of November and in the first half of December. No storm appeared in the Bay in November, but the northerly winds extended further south and were stronger than usual and gave frequent showers in the Madras coast districts.

The only abnormal feature in the Bay in December was a very feeble disturbance in the extreme south-west of the Bay, which gave a moderate burst of rain to East Ceylon

and the Coromandel coast districts on the 15th and 16th. Northerly winds prevailed over the whole Bay area from the 18th to the end of the month and the final and complete withdrawal of the humid winds of the south-west monsoon hence occurred on the 17th December.

The most important feature of the period was the occurrence of a series of three cyclonic storms of moderate to considerable intensity in the Arabian Sea. These all formed over a large area of uniform pressure conditions and light winds and between areas of high pressure in the Persian region and in the extreme south-west of the Arabian Sea. There was, more especially in October, a broad belt of uniform pressure stretching between the west coast of India and the South-West Arabian and East African coasts. Each storm formed after a period of fine weather in a large region of uniform pressure, light winds, great humidity, and probably much evaporation from the sea surface, and immediately to the north of a region of moderate south-westerly to westerly humid winds. The conditions were hence similar to those under which cyclonic storms and cyclones are usually initiated in the Bay area in October. The storms in October advanced along tracks between west-north-west and north-west, and approximately along the line or axis of lowest pressure intermediate between the two areas of high pressure to the north and south. These storms gave widely spread moderate rain to the east of the disturbance and the Konkan and Malabar coast districts, and the western half of the Deccan and Mysore hence received unusually favourable rain in October.

These storms were evidently in part a product of the special pressure conditions of the period in the Arabian Sea, and in part of the continuance of stronger and more persistent south-west monsoon winds in the south of the Arabian Sea than usual throughout October.

J. E.

10th August, 1903.

APPENDIX.

The following is a brief statement of the hailstorms which occurred during the year 1902 in the North-West Frontier Province, the Punjab, United Provinces of Agra and Oudh, Central India, the Central Provinces and Burma, the reports of which were received too late to be given in the storm sections of the Monthly Weather Reviews of the year :—

Date. Day and month.	Area affected by storm.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	Estimate of damage caused by storm.
	North-West Frontier Province.						
Mar. 18	Five villages of the Kohat district.						Damaged crops.
„ 18	Eight villages in the Charsadda tahsil of the Peshawar district.						Damaged crops severely in five villages, necessitating remission of revenue to the extent of ₹889.
„ 27	Seven villages in the Nowshera tahsil of the Peshawar district.						Damaged crops severely, necessitating remission of revenue to the extent of ₹801.
„ 27	Seven villages of the Kohat tahsil.	No information.	No information.	No information.	No information.	No information.	Damaged crops.
Apr. 20	Four villages of the Peshawar district.						Damaged crops severely, necessitating remission of revenue to the extent of ₹1,686.
„ 20	About 14 square miles in the Mansahra tahsil of the Hazara district.						Damaged crops severely.
May 11	Two villages of the Kohat district.						Damaged crops.
Aug. 12	About 23 square miles in the Mansahra tahsil of the Hazara district.						Damaged crops, necessitating remission of revenue amounting to ₹49.
Sept. 22	Village Ghurozai in the Teri tahsil of the Kohat district.						Damaged crops, necessitating remission of revenue to the extent of ₹88.
Mar. 18	Punjab. Seventy-six villages of the Gujarat district.			NW			Damaged crops, severely in 46 villages, necessitating a remission of revenue to the extent of ₹5,548.
Sept. 16	Five villages in the Pind Dadan Khan tahsil of the Jhelum district.						Damaged crops severely.
Oct. 16	About 25 square miles in the Pindigheb tahsil of the Rawalpindi district.						Damaged crops, necessitating remission of revenue amounting to ₹44.
„ 17	About 54 square miles in the Jhang district.			S	About a chhatak in weight.		Damaged crops, necessitating remission of revenue to the extent of ₹84-5-4.
	United Provinces of Agra and Oudh.						
Feb. 20 and 21	About 70 square miles in the Bulandshahr district.						Damaged crops to the extent of 4 to 12 annas in the rupee.
Apr. 24	Shahjahanpur and Tilhar tahsils of the Shahjahanpur district.		About half an hour.	W	2 oz.		Damaged crops slightly.
Oct. 19	Baheri tahsil of the Bareilly district.					Moderate	
„ 20	Two Pargannas of the Gonda district.		20 minutes.	NW	1½ inches in diameter.		Damaged crops.
„ 20	Sixteen villages in the Sandila tahsil of the Hardoi district.		10 minutes.		Small		Damaged crops slightly.
Feb. 19	Central India. Twenty-five villages in the Chhatarpur State.	4 P.M.					Damaged crops.
	Central Provinces.						
Jan. 11	Five villages in the Umrer tahsil of the Nagpur district.	8 P.M.	One hour.	N	About double the size of an ordinary egg.	Moderately severe.	Damaged crops to the extent of 12 annas in the rupee.
	Burma.						
Oct. 28	About 30 square miles in the Sagaing district.			NW	Gooseberry.		No information.

TABLE I.—Abstract of Observations taken at 8 A.M. at 225 Stations in India, Burma, etc., in the year 1902.

Table

Abstract of observations taken at 8 A.M

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of Air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and to constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range during year.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	I.—Burma Coast and Bay Islands.				+·022							87·9	+0·6	73·8	+0·7	80·9	+0·6	14·1			37·9	22·6
1	Tenasserim and Bay Islands.	Car Nicobar *	25	29·895		29·847	30·043	29·770	·273	·119	79·6	86·2		76·6		81·4		9·6	92·3	66·4	25·9	16·5
		Port Blair	61	29·872	+·024	29·864	30·074	29·668	·406	·143	80·8	87·5		77·6		82·6		9·9	96·4	69·4	27·0	17·5
		Mergui	96	29·854	+·021	29·881	30·087	29·659	·428	·146	78·1	87·9	+0·4	73·5	+2·3†	80·7	+1·4†	14·4	95·6	60·3	35·3	22·1
		Tavoy	26	29·930	+·007†?	29·887	30·162	29·733	·429	·157	76·3	88·2	+0·3	72·0	+0·9	80·1	+0·6	16·2	97·7	55·0	42·7	25·0
		Moulmein	94	29·841	+·017?	29·878	30·111	29·585	·526	·175	77·7	89·3	+1·1*	73·2	+0·9	81·3	+1·0*	16·1	100·4	60·9	39·5	24·9
2	Lower Burma	Rangoon	57	29·851†	?	29·829†	30·061	29·493	·568	·196†	77·1	89·2	−0·4?	73·4	+0·5*	81·3	+0·1?	15·8	102·6	61·3	41·3	24·2
		Bassein	27	29·895	+·021*	29·858	30·163	29·497	·666	·189	77·0	88·7	+0·7	73·6	+1·6	81·2	+1·2	15·1	100·7	59·8	40·9	23·4
		Diamond Island	41	29·876	?	29·853	30·134	29·510	·622	·185	80·5	86·9	?	77·0	+1·7	82·0	?	9·9	98·4	70·2	28·2	16·9
5	Arakan	Akyab	20	29·884	?	29·847	30·175	29·464	·711	·215	75·2	86·3	+0·1	71·6	−0·7*	79·0	−0·3*	14·7	95·9	50·6	45·3	24·2
3	Central Burma	Toungoo	183	29·740	+·033	29·867	30·020	29·423	·597	·156	76·7	89·2	?	69·5	?	79·4	?	19·7	104·1	51·6	52·5	31·4
	II.—Burma Inland				+·026							90·3	−0·2	68·9	−0·3	79·6	−0·2	21·4			58·3	32·7
3	Central Burma	Thayetmyo	130	29·793	+·010?†	29·866	30·082	29·453	·629	·186	77·3	92·3	+0·5	69·4*	+0·4*	81·0*	+0·5*	23·0*	108·7	48·5	60·2	33·6*
4	Upper Burma	Minbu	165	29·749	+·024	29·859	30·045	29·398	·647	·199	76·7	91·8	−0·4?	71·6	+0·5	81·7	+0·1?	20·2	109·6	51·5	58·1	31·5
		Yamethin	657	29·253	+·022	29·868	29·541	28·928	·613	·191	75·2	92·4	+0·2	69·6	+0·1	81·0	+0·2	22·8	109·1	50·7	58·4	34·2
		Mandalay	250	29·667	+·029*	29·872	29·960	29·336	·624	·202	77·4	92·9	+0·4*	71·0	−0·3†	82·0	+0·1†	21·9	111·1?	52·8	58·3	33·2
		Kindat *	377	29·526	?	29·866	29·870	29·138	·732	·241	72·0	87·1	−0·5	67·5	−0·6	77·3	−0·6	19·6	103·3	45·3	58·0	30·6
		Bhamo	381	29·528	+·029	29·874	29·832	29·178	·654	·224	69·0	85·0	−1·7†	64·0	−1·0†	74·5	−1·4†	21·0	99·0	42·2	56·9	32·9
4(a)	Burma Hill Stations.	Maymyo†		26·422		26·671	26·178	·493	·203		65·0	76·8		56·9		66·9		19·9	91·0	35·8	55·2	29·5
		Lashio									66·1	82·8	+0·3	59·8	−0·1	71·4	+0·1	2 2·9	97·5	41·1	56·4	36·4
	III.—Assam				+·021							82·3	−1·1	65·8	−1·1	74·1	−1·1	16·4		•	50·7	28·0
7	Surma	Silchar	104	29·811	+·024	29·869	30·151	29·335	·816	·242	72·0	86·6	+0·4?	66·8	−0·6	76·7	−0·1?	19·8	98·6	46·4	52·2	31·7
9	Brahmaputra	Sibsagar	333	29·585	+·018	29·885	29·939	29·130	·809	·264	68·1	80·4	−1·5	65·0	−0·8	72·7	−1·2	15·4	94·2	42·9	51·3	27·1
		Dhubri	115	29·773?	+·021?	29·847?	30·109	29·298	·811	·276	70·8	82·2	−0·6	66·9	−1·3	74·6	−1·0	15·3	93·2	45·8	47·4	26·4
		Tezpur	252	29·649		29·870	29·975	29·202	·773	·261	69·2	81·5		66·3		73·9		15·2	95·1	46·5	48·6	25·6
		Dibrugarh	353	29·567		29·890	29·886	29·129	·757	·243	68·4	80·6		64·1		72·4		16·5	86·2	42·4	53·8	29·4
	IV.—Bengal and Orissa				+·021							86·6	−0·1	·8	−0·3	77·7	−0·2	17·8			54·2	29·3
6	East Bengal	Chittagong	87	29·807	+·015?	29·844	30·127	29·300	·827	·234	74·0	85·3	+0·5	68·5	−1·0	76·9	−0·3	16·8	95·5	48·6	46·9	26·3
		Noakhali	43	29·842		29·832	30·186	29·939	·847	·238	75·1	84·8		68·9		76·9		15·9	94·7	45·1	49·6	27·2
		Comilla	36	29·851		29·876	30·187	29·371	·816	·240	73·2	86·4		68·1		77·3		18·2	98·8	45·6	53·2	29·4
		Sirajganj	49	29·826		29·826	30·156	29·344	·806	·261	72·2	85·0		68·4		76·7		16·6	100·5	46·3	54·2	27·6
		Narayanganj	26	29·861	+·023†	29·836	30·203	29·359	·844	·256	74·6	85·5	−1·1*	70·5	−0·1	78·0	−0·6*	15·0	96·6	50·2	46·4	25·2
		Barisal	13	29·853?	?	29·812?	30·191	29·333	·858	·243	75·8	85·7	−0·3	69·8	−0·6	77·8	−0·5	15·9		47·7	49·1	26·9
		Mymensingh	59	29·820	+·011?	29·832	30·146	29·350	·796	·251	72·7	84·0	−0·3	68·5	−0·5†	76·3	−0·4†	15·5	97·5	47·0	50·5	26·4
10	Deltaic Bengal	Faridpur	46	29·839		29·833	30·172	29·338	·834	·255	74·0	85·7		68·4		77·0		17·3	97·7	45·0	52·7	27·8
		Jessore	33	29·840	+·019	29·821	30·190	29·294	·896	·263	74·2	87·0	−0·8	69·2	−0·7	78·1	−0·8	17·8	99·5	43·1	56·4	30·9
		Calcutta	21	29·851	+·021	29·819	30·195	29·262	·933	·264	75·6	87·5	+0·9	70·5	−0·1	79·0	+0·4	17·0	99·7	48·6	51·1	28·8
		Saugor Island	25	29·842	+·018	29·812	30·180	29·263	·917	·264	77·2	86·5	+1·0	74·0	+0·3	80·3	+0·7	12·5	94·9	51·5	43·4	23·4
		Krishnagar	97	29·832		29·828	30·168	29·258	·914	·266	75·0	88·3		68·3		78·3		20·0	103·0	43·8	59·2	31·9
		Midnapore	149	29·713		29·811	30·051	29·102	·949	·264	75·9	89·6		70·8		80·2		18·9	107·9	49·6	58·3	31·6
11	Central Bengal	Bankura	258	29·541?		29·796?	29·880	28·920	·960	·266	75·4	89·7		70·3		80·0		19·5	106·3	48·0	58·3	32·7
		Ranigunj	334	29·529		29·819	29·880	28·928	·952	·264	73·4	89·6		69·1		79·4		20·5	107·3	47·1	60·2	33·6

* Mean of 11 months. † Mean of 10 months.

I.

at 225 stations in India, Burma, etc., in the year 1902.

Wind direction. Number of winds from: Calm.	N	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Wind velocity. Mean velocity in miles per hour by anemometer (uncorrected).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Hygrometry, 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of district.
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
																			132·41	146·95	—9·34		I.—Burma Coast and Bay Islands		
50	22	49	21	14	9	43	21	3	3·9	3·9			87	·874	8·4	101			90·76			3·36	Car Nicobar ‡	Tenasserim and Bay Islands.	1
11	24	54	16	36	17	64	89	54	7·6		7·4	+3	86	·905	5·4	162			138·60	117·63	+20·97	5·16	Port Blair.		
273	28	5		3	23	16	3	14	2·1	1·9	1·8	+6	88	·832	4·6	144	154·20	−10·20	137·57	168·37	−30·80	3·93	Mergui.		
319	3	2			1	8		2	1·4				90	·831	3·4	140	147·36	− 7·36	193·94	209·28	−15·34	12·80	Tavoy.		
85	19	54	12	30	43	88	15	17	2·5	2·8	2·8	0	85	·812	4·5	126	140·60	−14·60	167·73	183·92	−16·13	7·60	Moulmein §		
									6·1	5·1	4·4	+16	86	·805	4·7								Rangoon	Lower Burma.	2
83	15	29	20	48	18	36	12	104	4·6		3·8	+21	88	·830	4·3	122	128·50	− 6·50	109.15	112·60	− 2·85	5·88	Bassein.		
19	50	78	26	11	11	69	47	54	9·9	9·9	7·1	+39	79	·834	4·7	113	120·44	− 7·44	100·56	116·08	−15·52	5·34	Diamond Island.		
	144	88	17	53	44	11		3	3·0	2·9	3·7	−22	90	·812	4·2	121	113·70	+ 2·30	188·58	189·20	− 0·62	10·05	Akyab	Arakan.	5
48	25	17	6	143	34	19	8	65	4·9	4·8	3·0	+60	84	·789	5·0	109	113·60	− 4·60	64·70	70·11	−14·41	3·55	Toungoo	Central Burma.	3
																			43·14	46·95	−3·81		II.—Burma Inland.		
1	39	48	26	54	117	26	31	21	5·1		5·1	0	75	·720	4·6	74	72·50	+ 1·50	35·11	36·72	− 1·61	2·37	Thayetmyo §	Central Burma.	3
45	9	2	4	152	16	4	11	121	6·4	7·6			73	·696	3·6	51	50·50	+ 0·50	23·33	31·86	− 8·53	1·70	Minbu ‖	Upper Burma.	4
105	50			115	72	1		22	4·3	4·5			78	·698	4·1	65	61·20	+ 3·80	34·30	37·56	− 2·68	2·05	Yamethin.		
5	78	43	7	29	140	43	1	18	5·7	5·7			74	·709	2·3	48	47·50	− 1·50	28·51	32·36	− 3·85	2·08	Mandalay. ‖		
268	22	14	4	6	7	2	2	9	0·9	0·9			90	·735	5·3	91	89·10	+ 1·90	63·93	69·84	− 0·91	3·75	Kindat.		
160	21	68	23	12	6	22	17	31	2·1	2·4			90	·669	4·6	79	99·30	−20·30	63·06	73·38	− 5·32	4·66	Bhamo §		
207		18	1	7	1	55	6	1	3·2				85	·541	5·3	79	85·50	− 6·50	57·09	55·81	+ 1·28	3·15	Maymyo ¶	Burma Hill Stations.	4(a)
	50	93	33	38	50	55	22	23	4·3				84	·554	6·7	100			57·69	61·28	− 3·59	2·51	Lashio.		
																			107·32	100·20	+7·12		III.—Assam.		
320	1	14	26	3		1			1·3	2·2	2·7	−19	88	·723	5·5	140	136·80	+ 3·20	119·07	124·87	− 5·80	4·30	Silchar	Surma.	7
163	30	118	4	7	2	32		9	2·1	1·9	2·4	−21	97	·696	7·9	132	125·00	+ 7·00	96·32	96·21	+ 0·11	7·18	Sibsagar	Brahmaputra.	9
25	13	110	154	9	18	26	7	3	4·3	5·1	4·7	+ 9	89	·697	4·5	109	92·50	+16·50	120·35	93·28	+27·07	7·34	Dhubri.		
53	8	103	113	16	9	16	9	2	3·4	3·6			90	·671	5·2	105	103·30	+ 1·10	73·32	71·65	+ 2·16	5·00	Tezpur.		
	67	113	54	37	14	15	9	56	1·9	1·8			90	·644	4·0	134	131·80	+ 2·20	127·05	114·99	+12·06	6·86	Debrugarh.		
																			79·94	71·86	+8·08		IV.—Bengal and Orissa.		
	44	126	37	99	46	4	3	6	5·4	5·3	5·1	+4	86	·741	4·4	102	96·42	+ 5·58	121·32	96·52	+24·80	8·17	Chittagong	East Bengal.	6
	60	49	68	68	60	30	17	23	3·2*	3·1*			87	·778	3·9	111	109·36	+ 1·64	150·30	113·68	+36·62	6·65	Noakhali.		
133	15	3	26	43	139	2	2	2	3·3				88	·744	3·6	92	100·25	− 8·25	95·65	90·24	+ 5·41	7·02	Comilla.		
218	19	14	43	26	37	7	3	7	1·8	1·8			90	·847	4·4	96	78·66	+17·34	79·65	61·38	+18·27	5·08	Sirajganj.		
79	19	20	39	69	58	32	12	27	5·0		4·5	+11	88	·782	6·5	93	94·03	+ 3·92	86·61	69·60	+17·01	5·21	Narayanganj.		
72	24	27	13	69	79	27	15	29	3·1				87	·803	4·3	117	97·90	+19·10	120·71	77·60	+43·11	5·86	Barisal **		
194	2	5	65	76	16	3	2	2	2·6	2·4			88	·732	?	112	104·22	+ 7·78	109·29	87·55	+21·74	7·96	Mymensingh.		
69	38	12	30	77	68	28	12	31	3·8*	3·2*			88	·772	3·1	105	89·40	+15·60	84·18	68·56	+15·62	4·02	Faridpur	Deltaic Bengal.	10
227	15	6	15	61	27	6	3	5	1·5		3·2	−53	85	·777	4·6	92	88·45	+ 3·55	63·35	61·02	+ 0·67	2·58	Jessore.		
75	36	24	20	36	74	56	11	33	4·5		4·8	− 6	84	·778	5·0	81	85·54	− 4·54	62·23	59·55	+ 2·73	3·37	Calcutta.		
15	42	62	16	22	103	65	17	23	12·3		10·7	+20	85	·840	5·3	74	81·96	− 7·96	64·09	72·23	− 8·14	7·38	Saugor Island.		
26	28	20	37	14	80	29	38	43	3·4				83	·758	4·2	71	74·20	− 3·20	44·10	55·12	−11·02	2·82	Krishnagar.		
59	86	26	1	28	118	22	6	19	3·5	3·1			78	·742	2·6	80	78·22	+ 1·78	53·64	61·26	− 7·62	4·15	Midnapore.		
215	4	11	23	43	10	16	38	5	2·8	3·2			74	·695	3·8	64	77·37	−16·27	45·13	56·43	−11·30	4·53	Bankura	Central Bengal.	11
255	10	17	22	15	9	6	6	25	1·3				77	·687	3·2	76	72·95	+ 3·05	53·04	56·13	− 3·09	3·20	Raniganj.		

‡ Wind observations of 232 days. § Wind observations of 363 days. ‖ Wind observations of 364 days. ¶ Wind observations of 296 days.
** Wind observation of 355 days.

Table

Abstract of observations taken at 8 A.M

Number of District.	Meteorological Province or District.	Station.	Elevation of bar cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and to constant gravity, 32°, Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
11	Central Bengal —*concld.*	Burdwan	99	29·768	+·016	29·815	30·109	29·168	·941	·269	74·9	89·0	−0·1	70·3	−0·3	79·7	−0·2	18·7	106·4	46·8	59·6	31·7
		Naya Dumka	489	29·354*		29·810*	29·710	29·804	·906	·259*	74·0	87·9		68·1		78·0		19·8	108·4	44·0	64·4	33·7
		Berhampore	67	29·805	+·020	29·821	30·151	29·255	·896	·264	74·3	88·2	+0·4	69·6	0	78·9	+0·2‡	18·6	104·3	46·6	57·7	30·1
		Rampur Boalia	70	29·806		29·826	30·151	29·275	·879	·263	74·0	86·1		68·7		77·4		17·3	101·3	44·3	57·0	29·8
		Malda	72	?		?	30·149	29·281	·868	·264	73·4	86·6		67·8		77·2		18·8	104·1	43·0	61·1	31·8
		Bogra	61	29·803?	+·025?*	29·818?	30·125	29·323	·802	·254	71·7	85·8	−0·6	67·7	−0·5	76·7	−0·6	18·1	101·3	46·0	55·3	29·2
12	North Bengal	Dinajpur	123	29·741	?	29·822	30·072	29·248	·824	·264	70·6	85·3	−1·1*	66·1	−0·6*	75·7	−1·0*	19·2	97·3	40·5	56·8	31·0
		Rangpur	123	29·770		29·851	30·061	29·291	·770	·268	71·7	84·5		65·5*		74·8*		17·7*	95·4	41·8	53·6	30·9
		Jalpaiguri	284	29·604	+·026	29·854	29·936	29·128	·808	·279	70·1	83·4	−0·4	65·9	0	74·7	−0·2	17·5	95·4	45·1	50·3	29·3
		Cooch Behar	156	29·739		29·855	30·080	29·251	·829	·277	70·6	83·4		66·7		75·1		16·7	95·9	46·3	49·6	27·9
17	North Bihar	Purnea	125	29·748	+·025	29·831	30·115	29·267	·848	·270	70·5	86·4	−0·4	66·1	−0·3	70·2	−0·3	20·3	100·8	39·5	62·3	33·2
14	Orissa	Balasore	18	29·827?	+·019?	29·826?	30·174	29·233	·941	·263	75·9	88·9	+0·3	70·5	0	79·7	+0·2	18·5	104·5	47·4	57·1	31·3
		False Point	21	29·856	+·021	29·819	30·197	29·340	·857	·254	77·7	86·0	+0·1	72·0	−0·1	79·0	0	14·0	96·5	47·4	49·1	25·9
		Cuttack	80	29·792	+·021	29·816	30·131	29·292	·839	·253	76·5	92·0	+0·6	72·7	+0·1	82·3	+0·4	19·3	110·5	51·6	58·9	32·1
		Puri	24	29·855		29·818	30·193	29·359	·834	·247	77·9	86·0		74·4		80·2		11·7	98·7	54·6	44·1	21·7
	V.—Gangetic Plain and Chota Nagpur.				+·013							89·3	+1·0	67·2	+0·4	78·2	+0·7	22·0			68·7	36·6
15	Chota Nagpur	Hazaribagh	2,007	27·837	+·013	29·814	28·143	27·324	·819	·241	72·6*	86·2*	+1·5*	66·7*	+1·2*	76·5*	+1·4*	19·6*	106·1	44·0	62·1	33·5*
		Ranchi	2,128	27·719	+·012	29·814	28·016	27·192	·824	·238	71·9	85·8	+1·2	66·5	+1·2	76·2	+1·3	19·3	105·7	44·0	61·7	32·5
		Daltonganj	730?	29·127		29·822	29·488	28·603	·885	·259	71·2*	90·2		65·7*		78·0*		24·5*	113·1	36·2	76·9	40·1*
		Purulia		29·027		29·801	29·366	28·405	·961	·258	74·9	90·1		68·4		79·3		21·7	109·7	45·2	64·5	45·6
		Chaibassa	760	29·089	+·020?	29·812	29·426	28·481	·945	·257	73·9	90·4	0	69·4	+0·5	80·0	+0·3	21·0	110·1	46·4	63·7	35·1
16	South Bihar	Gaya	375	29·470	+·008	29·807	29·834	28·961	·873	·258	75·0	91·1	+1·1	69·3	+0·5	80·2	+0·8	21·8	111·3	44·0	67·3	36·1
		Dehri	351	29·492		29·805	29·864	29·014	·850	·255	75·6	90·7		70·3		80·5		20·4	112·5	46·3	66·2	35·6
		Patna	183	29·670	+·012*	29·809	30·039	29·191	·848	·255	75·0	86·7	+1·0	68·9	+0·2†	78·8	+0·3†	18·8	110·0	43·3	66·7	33·4
		Arrah	190	29·669		29·815	30·028	29·191	·837	·251	73·7	89·5		67·5†		77·8†		20·5†	109·9	42·0	67·9	34·8†
		Buxar	239	29·609		29·808	29·999	29·107	·892	·260	74·8	89·8		68·4		79·1		21·5	109·0	42·3	66·7	36·3
17	North Bihar	Bhagalpur	160	29·703		29·819	30·086	29·197	·889	·269	74·6	87·9		68·0		78·0		20·0	104·3	41·6	62·7	33·4
		Darbhanga	166	29·689	+·011	29·813	30·059	29·227	·832	·264	72·1	86·2	+0·3	68·3	−0·2	77·3	+0·1	17·9	102·8	43·8	59·0	29·8
		Muzaffarpur	178	29·683?		29·825?	30·051	29·208	·843	·262	72·6	86·6		66·7		76·7		19·9	105·7	40·1	65·6	33·3
		Motihari	224	29·640?		29·827?	30·018	29·168	·850	·276	72·4	86·9		64·8		75·9		22·2	102·9	37·0	65·9	35·3
		Chapra	181	29·667		29·806	30·036	29·191	·845	·254	73·1	89·4		67·6		78·5		21·8	109·5	42·7	66·8	35·0
18	United Provinces (East).	Benares	267	29·574	+·010	29·802	29·952	29·053	·899	·256	73·2	91·3	+1·5*	66·4	−0·4†	78·9	+0·6†	24·9	111·8	38·0	73·8	40·0
		Allahabad	309	29·539	+·017	29·809	29·907	29·022	·885	·257	74·8	91·5	+1·3	66·9	+0·1	79·2	+0·7	24·6	113·7	36·4	77·3	40·5
23	United Provinces (East Submontane).	Gorakhpur	257	29·592	?	29·812	29·953	29·147	·806	·259	72·1	88·5	+0·5?	66·8	−0·6?	77·7	−0·1?	21·7	109·2	42·1	67·1	35·1
19	South Oudh	Lucknow	368	29·467	+·011	29·803	29·842	29·009	·833	·263	72·8	90·9	+1·1	65·5	0	78·2	+0·6	25·4	113·8	35·1	78·7	41·0
20	North Oudh	Bahraich	401	29·432	+·017	29·803	29·804	28·981	·823	·261	73·0	89·4	+1·2	64·8*	+0·2*	76·5*	+0·6*	23·4*	111·7	39·1	72·6	37·3*
21	United Provinces (Central).	Cawnpore	416	29·422	+·018	29·802	29·796	28·944	·852	·257	73·5	91·4	+1·4	66·1	−0·3†	78·8	+0·6†	25·3	112·6	35·0	77·6	40·7
		Mainpuri	518	29·317	+·017	29·804	29·690	28·840	·850	·262	73·2	91·5	+1·7	65·6	0	78·6	+0·9	25·9	113·7	34·0	79·7	41·1
	VI.—Upper Sub-Himalayas				+·013							88·4	+1·1	63·5	+0·4	76·0	+0·8	25·1			78·4	40·8
24	United Provinces (West Submontane).	Bareilly	568	29·260	+·016	29·808	29·649	28·832	·817	·267	70·5	88·2	+0·6	65·1	+0·4	76·7	+0·5	23·1	109·5	37·7	71·8	37·1
		Dehra Dun	2,233	27·606	+·010	29·831	27·936	27·221	·715	·250	66·0	82·3	+1·1	50·9	0	71·6	+0·6	21·4	102·0	37·5	64·5	35·0
		Roorkee	899	28·929	+·017	29·820	29·303	28·495	·808	·267	67·8	87·3	+0·2	61·6	−1·0	74·5	−0·4	25·7	108·7	30·7	78·0	40·1

* Mean of 11 months. † Mean of 10 months.

I—*contd.*

at 225 stations in India, Burma, etc., in the year 1902—contd.

Wind direction. Number of winds from									Wind velocity.				Hygrometry, 8 A.M.			Rainfall.						Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of district.
Calm.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Mean velocity in miles per hour, by anemometer (uncorrected).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
131	30	23	20	25	34	60	18	24	2·9	2·9	3·3	−12	81	·744	4·6	61	77·88	−16·28	46·07	57·06	−10·99	2·47	Burdwan.	Central Bengal —*concld.*	11
154	11	15	46	48	40	16	9	26	2·9	3·2			85	·673	4·4	71	79·60	− 8·60	56·31	58·65	− 2·34	6·62	Naya Dumka.		
105	20	9	46	26	71	43	17	27	2·6	2·7	3·5	−23	83	·745	4·8	75	77·22	− 2·22	65·77	55·13	+10·64	4·64	Berhampore§.		
248	2	11	7	28	31	25	12	1	1·7	1·7			83	·744	2·9	85	75·14	+ 9·86	78·16	57·62	+20·54	5·00	Rampur Boalia.		
8	29	33	32	53	42	31	29	53	1·9	1·7			82	·716	3·2	73	69·20	+ 3·80	49·35	54·18	− 4·83	2·60	Malda.		
138	33	10	34	9	30	6	5						86	·709	3·9	101	81·31	+19·16	80·29	67·14	+13·15	7·30	Bogra.		
	32	95	86	39	32	27	28	26	3·6	3·4			86	·666	4·9	86	77·09	+ 8·91	81·11	70·99	+10·12	6·55	Dinajpur . .	North Bengal.	12
104	1	74	124	16	28	13	3	2	2·6	2·8			88	·715	4·1*	108	81·61	+26·39	97·26	84·02	+13·24	5·10	Rangpur.		
3	88	111	70	33	11	4	7	38	1·4	1·8			88	·676	2·8	116	99·26	+16·74	153·09	123·20	+29·89	6·61	Jalpaiguri.		
171	4	36	117	27	5	2	3		1·6	1·6			83	·690	4·7	111	100 59	+10·41	177·86	128·63	+49·23	9·03	Cooch Behar.		
114	3	90	39	58	3	25	10	23	3·6	3·2	2·4	+33	85	·678	2·9	81	70·51	+10·49	53·32	64·88	−11·56	3·36	Purnea . .	North Bihar.	17
102	46	6	3		51	102	10	45	3·8				77	·723	3·2	69	81·12	−12·12	55·61	64·68	− 9·07	4·25	Balasore . .	Orissa.	14
29	55	5	4	11	38	97	63	63	9·0	8·6	9·1	− 5	85	·826	5·4	67	73·74	− 6·74	50·13	65·69	−15·56	4·26	False Point.		
186	5	5	15	5	32	76	37	4	2·4		3·4	−29	81	·763	4·2	69	75·61	− 6·61	64·95	59·70	+ 5·25	7·51	Cuttack.		
103	75	17		2	10	129	10	17	11·1	10·5			85	·838	3·5	57	58·12	− 1·22	55·62	54·45	+ 1·17	4·94	Puri‡.		
																			41·12	45·97	−4·85		V.—Gangetic Plain and Chota Nagpur.		
56	20	5	10	18	59	68	73	56	7·5	6·7	6·8	− 1	60	·509	4·5	71	75·70	− 4·70	42·18	53·40	−11·22	2·41	Hazaribagh . .	Chota Nagpur.	15
68	18	12	13	17	52	62	36	86	5·1	6·0			65	·537	4·0	71	81·49	−10·49	48·15	55·79	− 7·64	2·95	Ranchi§		
301	6	5	21	15		13	4		2·4	2·9			73*	·592*	2·0	44	62·52	−18·52	31·48	44·53	−13·05	3·93	Daltonganj.		
243	2	10	12	8	6	5	43	36	1·3	1·5			68	·631	3·0	68	75·91	− 7·91	49·03	52·71	− 3·68	7·15	Purulia		
202	2	10	7	4	11	61	62	6	1·4	1·3			76	·671	2·7	70	75·30	− 5·30	51·19	51·29	− 0·10	4·35	Chaibassa.		
88	9	54	25	30	43	66	41	9	4·2	3·6	2·6	+46	73	·684	3·3	59	57·38	+ 1·62	39·87	47·00	− 7·13	2·96	Gaya . . .	South Bihar.	16
35	7	10	58	21	88	112	31	3	5·7	5·1			69	·605	3·8	53	55·34	− 2·34	43·03	43·20	− 0·17	3·55	Dehri.		
21	3	47	94	45	13	62	50	20	4·8	6·5	3·0	+83	74	·681	3·4	52	55·35	− 3·35	45·50	48·04	− 2·54	7·93	Patna.		
162	13	36	22	19	8	19	39	57	2·5	2·6			73	·649	2·0	58	55·93	+ 2·07	38·62	46·04	− 7·42	2·54	Arrah.		
17	3	7	127	17	15	30	133	12	8·0*	7·3*			67	·614	3·2	48	54·74	− 6·74	37·33	41·55	− 4·22	2·89	Buxar‖		
125	8	27	69	53	16	25	26	6	3·5	3·3			74	·674	3·5	57	60·81	− 3·81	41·92	49·36	− 7·44	2·49	Bhagalpur.	North Bihar.	17
153	5	8	38	64	2	12	23	10	2·6		3·6	−28	83	·694	3·2	62	58·35	+ 3·65	54·13	51·07	+ 3·06	5·46	Darbhanga.		
148	1	25	33	59	1	13	23	12	3·8				82	·697	1·9	57	55·27	+ 1·03	45·51	45·63	− 0·12	4·17	Muzaffarpur.		
9	10	71	155	31	12	25	29	23	4·4	4·2			82	·688	2·3	62	55·74	+ 6·26	70·88	51·66	+19·22	5·20	Motihari.		
119	4	19	109	26	12	39	30	7	3·0	2·7			76	·658	3·3	48	52·29	− 4·29	30·98	40·89	− 9·91	2·00	Chapra.		
159	3	21	48	23	5	68	28	10	2·5	2·8	3·9	−28	71	·639	3·2	40	50·90	−10·90	28·31	40·99	−12·68	2·82	Benares . .	United Provinces (East).	18
69	11	33	60	16	23	32	79	42	4·9	5·6	4·6	+22	67	·599	3·4	48	45·30	+ 2·70	39·73	40·73	− 1·00	4·76	Allahabad.		
101	38	90	39	13	14	16	25	29	1·9		2·5	−24	79	·661	4·2	58	54·10	+ 3·90	44·74	52·01	− 7·27	3·74	Gorakhpur . .	United Provinces (East Submontane).	23
130	14	19	68	19	15	14	74	14	2·2	2·4	3·1	−23	67	·578	2·5	38	51·00	−13·00	32·45	38·89	− 6·44	4·15	Lucknow . .	South Oudh.	19
122	4	18	61	76	5	11	20	48	4·9	4·6			73	·638	2·9	41	50·40	− 9·40	44·33	48·91	− 4·58	5·68	Bahraich . .	North Oudh.	20
112	10	27	32	31	14	56	62	21	3·6				64	·563	3·0	39	43·00	− 4·00	26·55	35·91	− 9·39	5·96	Cawnpore . .	United Provinces (Central).	21
183	11	1	45	5	15	3	93	9	1·4	1·4			58	·509	4·1	28	36·10	−10·10	18·70	31·76	−13·06	3·95	Maiapuri.		
																			27·75	36·57	−7·80		VI.—Upper Sub-Himalayas.		
202	4	14	51	9		11	25	49	1·6	1·6	3·5	−54	72	·583	2·3	41	47·17	− 6·17	40·37	47·86	− 7·49	3·00	Bareilly . .	United Provinces (West Submontane).	24
239	4	11	7	7	11	19	43	24	1·4		1·8	−22	66	·457	3·5	68	80·90	−12·90	58·39	39·19	−30·80	3·97	Dehra Dun.		
209		9	12	76	10	10	5	34	2·5		2·5	0	68	·500	2·4	39	49·10	−10·10	43·27	43·22	+ 0·05	5·84	Roorkee.		

‡ Wind observation of 363 days. § Wind observation of 364 days. ‖ Wind observation of 361 days.

Table

Abstract of Observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of barometer cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of air.										
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean Pressure reduced to sea-level and to constant gravity, 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
22	United Provs., West.	Meerut	738	29·076	+·003?	29·802	29·458	28·622	·836	·267	69·0	88·9	+1·0	53·6	−0·2	76·2	+0·4	25·3	109·2	34·1	75·1	36·9
26	South East Punjab	Delhi	718	29·108	+·010	29·807	29·477	28·654	·823	·267	71·9	88·8	−0·2?	53·1	+0·7	78·5	+0·3?	20·7	111·7	40·2	71·5	36·6
28	Central Punjab	Lahore	702	29·113	+·016	29·810	29·532	28·613	·919	·316	69·5	91·1	+0·4	53·3	+2·4?	77·2	+1·4?	27·8	117·4	31·5	85·9	45·3
27	South Punjab	Sirsa	662	29·161	+·010	29·806	29·551	28·674	·877	·250	72·1	92·4	+0·5	55·1	+1·1	73·8	+0·8	27·3	115·8	33·0	82·8	43·7
		Patiala	818	29·004		29·810	29·387	28·545	·842	·278	70·6	88·1		53·2		75·7		24·9	111·5	32·0	79·5	40·2
29	Punjab Submontane.	Ludhiana	812	29·007	+·015	29·811	29·493	28·539	·954	·285	69·6	88·3	−0·1?	53·9	+1·1	76·6	+0·5?	23·4	113·9	34·0	79·9	38·7
		Sialkot	830	28·983	+·018	29·814	29·394	28·496	·898	·307	69·8	89·9	+2·2	54·4	+1·8 *	77·2	+2·0 *	25·5	117·0	33·0	84·0	43·2
		Umballa	892	28·929	?	29·814	29·298	28·486	·812	·266	69·1	89·1	+1·2	53·0*	−1·9?	76·8*	−0·3?	27·6*	111·9	32·0	79·9	43·7
31	North Punjab	Rawalpindi	1,674	28·154	+·009	29·848	28·513	27·691	·822	·302	66·4	86·5	+2·3	53·4	+0·8	72·5	+1·6	28·1	114·0	26·0	88·0	46·4
	VII.—N.-W. Frontier Province, Indus Valley and North-West Rajputana.				+·008							93·3	+2·0	66·6	+1·0	80·0	+1·5	26·7			81·8	43·5
31	North Punjab	Peshawar	1,110	28·739	+·006	29·863	29·148	28·217	·931	·325	68·9	87·9	+2·2	50·0	+0·8	74·0	+1·5	27·8	117·5	28·4	89·1	45·4
32	West Punjab	Khushab	612	29·224	?	29·824	29·644	28·702	·942	·332	71·4	91·2	+1·6	53·9	+0·2	77·6	+0·9	27·3	118·9	27·4	91·5	45·1
		Montgomery	558	29·260	+·016	29·796	29·636	28·729	·957	·326	73·5	92·6	+0·3	54·7	+0·3?	73·7	+0·3?	27·9	117·0	30·5	86·5	46·6
		D. I. Khan	590	29·246	+·005	29·804	29·512	28·714	·958	·339	69·9	91·9	+1·5	52·9	+0·5	77·4	+1·0	29·0	119·7	28·0	91·7	48·3
		Mooltan	420	29·398	+·003	29·797	29·344	28·845	·999	·339	72·3	94·2	+2·4	57·2	+1·9	80·7	+2·2	27·0	119·0	36·0	83·0	43·3
47	Sind	Jacobabad	186	29·630	−·001?	29·782	30·070	29·080	·990	·304	73·7	93·7	+3·1	57·0	+1·9	82·9	+2·5	31·7	125·0	32·0	93·0	49·2
		Hyderabad	96	29·743	+·006	29·799	30·141	29·244	·897	·269	75·6	95·0	+1·6	59·3	+1·0	82·2	+1·3	25·7	114·6	42·5	72·1	42·9
		Kurrachee	30	29·917	+·010	29·828	30·211	29·195	1·016	·299	76·6	90·0	+2·8	72·1	+2·3?	81·1	+2·6?	17·9	106·4	46·2	60·2	33·5
51	West Rajputana	Bikaner	771	29·057	+·013	29·810	29·439	28·571	·868	·272	75·0	93·8	+1·8	69·8	+0·1	81·8	+1·0	24·0	115·8	39·1	76·7	40·9
		Pachpadra	380	29·487	+·029?	29·833	29·855	29·047	·808	·239	74·1	96·6	+1·9	66·7	+1·9	81·7	+1·9	29·9	116·5	36·0	82·5	44·7
		Jodhpur	782	29·069		29·846	29·412	28·614	·798	·241	75·4	94·9		69·5		82·2		25·4	114·3	41·1	73·2	40·8
	VIII.—East Rajputana, Central India and Gujarat.				+·013							91·8	+1·6	69·0	+1·5	80·4	+1·6	22·8			68·4	36·6
50	East Rajputana	Jaipur	1,431	28·432	+·016	29·844	28·751	27·984	·767	·240	74·3	92·6	+1·7	56·7	+1·1	79·7	+1·4	25·8	113·2	37·5	75·7	41·0
		Kotah	819	29·023		29·854	29·376	28·565	·811	·240	76·8	93·5		70·6		82·1		22·8	114·1	43·0	71·1	37·7
		Sambhar	1,254	28·602	+·021?	29·846	28·930	28·149	·781	·243	71·3	92·4	+2·3?	55·6	+0·5	79·0	+1·4?	26·7	112·5	34·0	78·5	42·1
		Ajmer	1,611	28·252	?	29·858	29·577	27·813	·764	·234	71·1	90·4	+1·4	56·9	+2·5?	73·6	+1·9?	23·5	108·4	35·0	73·4	38·9
		Udaipur	1,925	27·959		29·864	28·263	27·554	·709	·211	73·3	89·3		55·5		77·4		23·8	108·1	35·2	72·9	38·8
		Deesa	466	29·406	+·005	29·845	29·717	28·991	·726	·223	76·3	97·0	+3·2	59·4	+2·3	83·2	+2·8	27·6	115·1	43·6	71·5	41·4
46	Kathiawar and Cutch.	Bhuj	395	29·483	+·015	29·836	29·817	29·053	·764	·229	77·3	93·2	+1·8	59·7	+1·0	81·5	+1·4	23·5	110·8	45·0	65·8	37·5
		Jamnagar	61	29·835		29·842	30·162	29·346	·816	·226	76·6	91·8		59·4		80·6		22·4	105·2	41·1	64·1	34·5
		Rajkot	429	29·457	+·010	29·845	29·748	29·011	·737	·219	75·7	94·3	+1·2	57·8	+1·7	81·1	+1·5	26·5	110·9	40·6	70·3	39·5
		Veraval	18	29·877	+·006	29·837	30·165	29·348	·816	·228	77·1	86·0	+0·8	72·7	+1·7	79·4	+1·3	13·3	104·2	53·8	50·4	25·8
		Dwarka	37	29·853		29·836	30·190	29·300	·890	·225	78·5	85·5		73·5		79·5		12·0	96·8	52·1	44·3	22·4
		Bhavnagar Para	55	29·852?	−·002?	29·854?	30·141	29·355	·786	·234	77·5	95·1	+2·2	70·7	+0·5	82·9	+1·3	24·4	112·2	45·2	67·0	37·3
49	Central India	Nowgong	757	29·089	+·009	29·820	29·434	28·571	·863	·244	72·9	90·0	+0·3	56·8	+1·2?	78·4	+0·7?	23·2	114·0	35·0	79·0	39·0
		Indore	1,823	28·069	+·027	29·860	28·352	27·670	·682	·211	73·9	89·5	+1·5	56·4	+1·7	77·5	+1·6	24·1	108·3	36·6	72·2	37·8
		Neemuch	1,630	28·251	+·020	29·863	28·561	27·941	·720	·218	72·8	90·5	+1·5	55·5	+1·2	78·0	+1·4	25·0	110·6	37·1	73·5	40·1
45	Gujarat	Surat	39	29·866	+·011	29·848	30·126	29·462	·664	·216	78·5	93·4	+1·8	72·0	+2·7?	82·7	+2·3?	21·4	110·1	51·6	58·5	33·7
		Ahmedabad	163	29·725	+·012	29·837	30·027	29·312	·715	·226	78·5	96·3	+2·2	72·6	+1·7	84·5	+2·0	23·7	115·4	49·2	66·2	35·7
22	United Provs., West.	Agra	555	29·283	?	29·810	29·649	28·804	·845	·266	73·9	91·3	+0·7	69·0	+1·3	80·2	+1·0	22·3	113·5	39·9	73·6	37·2
21	U. P., Central	Jhansi	858	29·000	+·014	29·819	29·313	28·499	·844	·252	75·7	92·1	+0·9	71·3	+2·3	81·8	+1·6	20·8	114·1	44·2	70·2	35·9

* Mean of 11 months.

1—*contd.*

at 225 stations in India, Burma, etc., in the year 1902—contd.

Wind direction. Number of winds from									Wind velocity.				Hygrometry 8 A.M.			Rainfall.							Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer uncorrected.	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.			
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	19
178	4	11	32	30	2	23	62	23	1·5	1·5	2·2	−32	64	·498	3·0	33	37·00	− 4·00	33·93	32·07	+ 1·86	5·72	Meerut . .	United Provinces, West.	22
80	16	21	26	45	4	20	38	75	4·3	4·0	3·6	+11	54	·470	2·6	28	37·10	− 9·10	27·25	28·09	− 0·84	3·13	Delhi . . .	South-East Punjab.	26
151	29	13	28	61	12	4	34	23	2·5		2·5	0	63	·502	2·3	21	22·90	− 1·90	11·83	20·10	− 8·27	2·05	Lahore. . .	Central Punjab.	28
33	23	80	33	51	20	56	25	44	5·4	4·9	3·6	+36	58	·495	0·4	18	23·10	− 5·40	6·99	14 43	− 7·44	1·17	Sirsa . . .	South Punjab.	27
53	39	26	57	37	17	13	25	48	5·1	5·1			65	·535	2·8	25			16·26			3·31	Patiala.		
124	4	31	12	21	7	24	37	35	2·8	2·4	1·5	+60	60	·480	2·2	28	32·70	− 4·70	23·38	28·67	− 5·29	4·36	Ludhiana. . .	Punjab (Submontane).	29
140	37	58	65	22	5	1	9	28	1·9		1·8	+ 6	61	·429	1·8	30	40·70	−10·70	20·90	31·75	−10·85	2·95	Sialkot.		
228		1	25	74	1		5	31	3·4				68	·529	2·7	37	36·90	+ 0·10	25·36	32·96	− 7·60	3·40	Umballa.		
230	32	28	13	14	9	6	10	23	2·5	2·3	2·0	+15	56	·403	2·7	41	47·30	− 6·30	24·83	33·98	− 9·15	1·61	Rawalpindi . .	North Punjab.	31
																			7·78	9 99	−2·21		VII.—N.-W. Frontier Province, Indus Valley and North-West Rajputana.		
250	18	12	8	3	14	9	22	29	2·1	2·3	3·4	−32	57	·443	2·5	15	23·80	− 8·80	4·15	13·09	− 8·97	0·50	Peshawar . .	North Punjab.	31
94	29	116	54	13	21	16	15	7	5·9	6·0			47	·426	1·8	22	18·00	+ 4·00	12·29	14·12	− 1·83	2·25	Khushab . .	West Punjab.	32
49	32	42	47	72	38	52	17	16	7·1	6·1			41	·411	1·6	9	16·10	− 7·10	4·98	10·25	− 5·27	1·42	Montgomery.		
228	30	63	6	16	3	1		18	1·7	1·8	1·8	0	62	·537	1·8	9	17·60	− 8·60	5·04	8·51	− 3·47	0·90	D. I. Khan.		
157	27	45	3	52	21	49	1	10	1·7	2·1	2·5	−16	58	·515	1·6	11	12·40	− 1·40	5·13	7·30	− 2·17	0·97	Mooltan.		
197	22	21	18	72	18	4		13	2·6	2·7	3·4	−21	63	·612	2·0	7	8·20	− 1·20	2·10	3·78	− 1·68	0·56	Jacobabad . .	Sind.	47
41	102	6	2	4	19	167	10	13	9·7	10·0	10·1	− 1	55	·531	1·6	13	9·70	+ 3·30	15·93	6·90	+ 9·03	3·80	Hyderabad†		
44	13	19	28	5	8	82	112	23	9·1	11·3	13·3	−15	71	·702	2·7	10	9·30	+ 0·70	18·23	8·26	+ 9·97	7·17	Kurrachee.		
22	14	26	44	41	48	66	78	25	7·6		4·8	+58	51	·501	1·9	13	18·80	− 5·80	5·83	11·29	− 5·46	0·86	Bikaner† . .	West Rajputana.	51
	49	33	58	9	92	79	35	9	7·7	6·9	5·8	+19	57	·551	0·6	11	19·10	− 8·10	5·08	13·30	− 8·22	2·42	Pachpadra.† .		
50	19	103	17	6	25	93	49	3	6·1	5·5			45	·448	2·9	11	20·30	− 9·30	6·99	13·14	− 6·24	1·80	Jodhpur.		
																			23·57	28·51	−3·32		VIII.—East Rajputana, Central India and Gujarat.		
58	23	47	28	10	16	42	88	53	3·8		5·1	−25	51	·470	2·8	27	37·80	−10·80	18·71	26·05	− 7·34	2·95	Jaipur . . .	East Rajputana.	50
159	19	7	13	13	9	82	55	47					51	·457	1·6	29	37·60	− 8·60	24·33	29·92	− 5·59	3·43	Kotah.		
178	20	19	22	7	9	9	66	35	5·7		6·7	−15	50	·433	2·5	24	31·30	− 7·30	13·27	20·74	− 7·47	2·74	Sambhar		
136	2	25	2	23	5	47	90	35	5·5		4·3	+28	61	·504	3·1	28	32 60	− 4·60	17·02	21·80	− 4·78	3·05	Ajmer.		
226	7	3	1	4	9	45	51	20	3·4	3·5			63	·556	2·3	31	34·10	− 3·10	21·59			2·93	Udaipur.		
	25	32	38	26	42	90	46	16	9·6		10·3	− 7	54	·541	2·6	20	28·81	− 8·81	13·43	24·12	−10·69	3·00	Deesa.		
	17	13	14	25	15	103	114	64	12·5		10·2	+23	70	·689	2·7	14	16·10	− 2·10	9·98	14·52	−4·54	2·14	Bhuj . . .	Kathiawar and Cutch.	46
11	10	40	34	16	48	116	72	18	11·8	14·1			69	·681	2·5	16			10·24			1·77	Jamnagar		
10	22	21	68	15	10	65	110	44	10·4	10·3	9·2	+12	66	·624	3·3	23	30·90	− 7·90	25·15	28·13	− 2·98	3·84	Rajkot.		
10	65	73	30	11	12	57	54	45	10·3		7·9	+30	73	·717	3·3	26	29·20	− 3·20	17·51	18 24	− 0·73	3·15	Veraval.‡		
	47	57	26	3	6	79	89	58	15·0				77	·776	3·6	14			12·97			2·52	Dwarka.		
1	822	17	6	16	9	98	90	120	9·3	8·8			58	·579	3·5	36	34·70	+ 1·30	22·03	19·76	+ 2·27	3·29	Bhavnagar Para.		
79	17	10	38	20	22	48	107	24	2·1	2·1	2·5	−16	63	·529	3·7	43	50·70	− 7·70	42·43	44 96	− 2·53	9·16	Nowgong . .	Central India	48
77	16	30	25	20	11	25	103	58	6·1		4·2	+45	64	·556	3·8	41	45·30	− 4·30	30·25	33·64	− 3·38	2·19	Indore.		
34	23	83	30	13	5	62	99	16	9·1	8·2	10·1	−19	61	·532	2·8	36	37·40	− 1·40	28·57	30·08	− 1·51	3·10	Neemuch.		
27	52	35	61	16	59	59	47	17	6·9	6·5	9·0	−28	68	·694	2·8	46	47·40	− 1·40	55·08	44·03	+11·05	17·52	Surat . . .	Gujarat.	45
2	35	58	26	19	15	95	11	90	3·9	6·6			57	·592	3·0	29	37·20	− 8·20	28·03	33·24	− 5·21	4·87	Ahmedabad.§		
34	2	30	1	44	1	142	1	60	3·7	4·3	4·2	+ 2	60	·535	2·4	29	35·30	− 6·30	22·63	28 42	− 5·79	2·48	Agra . . .	United Provinces West.	22
60	11	25	3	15	9	123	49	50	4·0	4·1	3·4	+29	64	·598	1·5	43	43·90	− 0·90	34·60	33·51	− 3·91	5·24	Jhansi . . .	United Provinces Central	21

† Wind observations of 364 days. ‡ Wind observations of 357 days.
§ ,, ,, 361 ,,

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of Bar Cistern above sea-level in feet.	Pressure 8 A.M., in inches.							Temperature of air.										
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	IX.—Deccan.				+·016							91·9	+1·5	68·6	+1·2	80·3	+1·4	23·3			67·4	36·4
38	Bombay Deccan	Belgaum	2,539	27·385	+·014	29·865	27·590	27·133	·457	·171	72·0	84·8	+0·4	64·7	+0·8	74·8	+0·6	20·2	102·3	49·5	52·8	31·2
		Sholapur	1,590	28·319	+·010	29·866	28·576	28·001	·575	·185	77·0	93·9	+0·9	70·3	+2·3	82·1	+1·6	23·6	110·2	47·6	62·6	35·2
		Poona	1,840	28·072	+·003	29·881	28·305	27·736	·569	·198	71·7	91·0	+1·7	65·7	+1·9	78·4	+1·4	25·3	107·1	45·5	61·6	37·0
		Bijapur	1,996	27·978	+·021	29·874	28·203	27·679	·524	·183	75·5	91·7	+1·8	68·8	+1·3	80·2	+1·6	22·9	107·5	46·6	60·9	34·7
40	Khandesh	Malegaon	1,930	28·427	+·009	29·865	28·747	28·090	·657	·211	75·3	93·3	+1·8	66·9	+1·7	80·1	+1·8	26·5	110·8	43·3	67·5	39·6
		Ahmednagar	2,152	27·780	+·023	29·885	28·034	27·438	·596	·197	74·5	90·4	+1·5	65·3	+1·7	77·8	+1·6	25·1	106·4	40·9	65·5	37·5
41	Berar	Akola	936	28·58	+·016?	29·8, ?	29·254	28·566	·685	·221	76·7	94·7	+1·9	69·1	+2·0	81·9	+1·9	25·6	113·5	39·9	73·6	39·4
		Amraoti	1,215	28·674	+·027	29·851	28·960	28·279	·681	·204	77·9	93·5	+1·5?	71·2	+2·4	82·4	+2·1?	22·3	113·0	47·5	65·5	31·8
42	Central Provinces, West.	Khandwa	1,044	28·941	+·018	29·857	29·137	28·436	·701	·217	75·2	93·7	+1·9	68·9	+2·1?	81·3	+2·0?	24·8	114·2	37·2	77·0	39·6
		Hoshangabad	1,006	28·880	+·024	29·862	29·204	28·447	·757	·221	74·3	91·8	+1·4	68·4	+1·4	80·1	+1·4	24·3	113·0	39·2	73·8	36·8
		Nagpur	1,025	28·849	+·023	29·842	29·153	28·436	·717	·221	76·4	91·0	+1·9	70·4	+1·6	82·2	+1·7	23·6	114·2	44·1	70·1	36·9
43	Central Provinces, Central.	Chanda	634	29·310+?	?	29·300?+	29·572	28·993	·579	·210+	77·6	95·0	+2·1	69·2	+0·6	82·1	+1·4	25·8	114·2	39·0	75·2	40·6
		Seoni	2,033	27·843	+·020	29·838	28·140	27·408	·732	·216	74·3	89·6	+1·8	65·9	+1·0	77·7	+1·4	23·7	108·9	38·0	70·9	37·8
		Jubbulpore	1,327	28·527	+·014	29·833	28·851	28·028	·823	·235	72·5	90·1	+1·6	65·4	+0·9	77·8	+1·3	24·7	112·0	32·9	79·1	39·4
		Saugor	1,807	28·069	+·026	29·844	28·332	27·608	·774	·219	74·7	88·9	+0·9	68·5	+2·3	78·7	+1·6	20·4	110·5	43·1	67·4	34·6
49	Central India	Sutna	1,040	28·807	+·017	29·826	29·144	28·294	·850	·216	73·7	89·5	+1·4	67·9	+2·2	78·7	+1·9	21·7	113·6	35·5	78·1	37·1
44	Central Provinces, East.	Raipur	970	28·892	+·016	29·82	29·214	28·456	·758	·230	77·2	92·5	+2·1	68·7	−0·6	80·6	+0·8	23·9	114·5	39·3	75·2	38·2
		Sambalpur	486	29·382	+·015	29·825	29·719	28·883	·836	·247	76·8	92·7	+1·7	69·9	−0·2	81·4	+0·8	22·8	114·6	44·1?	70·5	36·7
29	Hyderabad, North.	Aurangabad	1905	28·013		29·867	28·264	27·657	·607	·202	76·6	90·9		66·7		78·8		24·2	107·6	41·1	66·5	37·5
		Indur									77·9	92·5		67·2		79·9		25·2	111·2	43·1	68·1	37·9
		Bidar	2,165?	27·750		29·851	27·984	27·433	·551	·185	77·5	90·1		65·5		79·8		20·6	108·2	53·0	55·2	31·0
52	Hyderabad, South	Gulbarga	1,503	28·408	+·012	29·865	28·655	28·101	·554	·193	77·6	93·9	+1·5	70·2	+1·4	82·0	+1·5	23·7	110·6	46·3	64·3	37·2
		Raichur	1,326	28·583	+·020	29·866	28·828	28·312	·516	·189	77·9	92·9	+0·8	72·5	+0·8	82·7	+0·8	20·4	110·0	52·2	57·8	31·8
		Hyderabad (Dn.)	1,690	28·216	+·018	29·863	28·432	27·904	·578	·202	75·7	91·6	+1·0	70·5	+2·1?	81·1	+1·6?	21·1	109·9	47·3	62·6	33·4
		Secunderabad	1,787	28·120	+·007	29·865	28·365	27·808	·557	·199	74·8	92·8	+2·2?	70·1	+1·7	81·5	+2·0?	22·7	110·8	46·7	64·1	35·3
		Hanumkonda	871	29·016		29·840	29·303	28·686	·617	·210	77·9	93·3		72·4		82·9		20·8	112·7	47·1	65·6	34·6
	X.—West Coast.				+·008							86·8	+0·7	75·5	+1·1	81·2	+1·0	11·4			30·2	19·0
37	Konkan	Bombay	37	29·879	+·005	29·855	30·119	29·481	·638	·207	79·3	87·4	+1·6	76·7	+1·8	82·1	+1·7	10·7	95·0	64·0	31·0	18·3
		Ratnagiri	110	29·815	?	29·863	30·033	29·479	·554	·188	79·4	87·8	+0·3	74·8	+1·7	81·3	+1·0	13·0	96·9	60·8	36·0	21·8
		Mormugao	60	29·871	+·010	29·866	30·079	29·611	·468	·172	79·3	86·7	+0·5	76·2	+1·2	81·5	+0·9	10·5	93·5	65·3	28·2	18·5
		Goa	199								79·1	84·4	−1·6?	76·7	+2·3?	80·6	+0·4?	7·7	91·0	66·0	25·0	15·4
		Karwar	44	29·889	+·010	29·865	30·082	29·662	·420	·168	77·4	86·8	+0·5	74·1	+1·4	80·5	+1·0	12·7	92·8	60·5	32·3	21·4
33	Malabar	Cochin	10	29·940	+·010	29·877	30·107	29·813	·294	·132	79·2	89·5	+1·9	75·4	+0·5	82·4	+1·3	14·1	97·5	60·9	36·6	21·3
		Calicut	27	29·914	+·003	29·870	30·088	29·770	·318	·145	79·0	87·4	+0·4	74·5	+0·4	81·0	+0·4	12·9	94·9	65·0	29·9	19·7
		Mangalore	65	29·869	+·002	29·866	30·047	29·696	·351	·152	79·4	87·0	−0·1	75·2	+1·0	81·1	+0·5	11·8	96·2	65·5	30·7	20·5
		Trivandrum	198	29·747	+·019	29·877	29·915	29·623	·292	·138	78·3	84·5	+0·5	75·7	+2·3?	80·1	+1·4?	8·8	90·5	68·0	22·5	14·5
	XI.—South India.				+·017							90·6	+0·4	72·7	+0·7	81·6	+0·5	17·9			43·1	28·9
57	Madras, South	Pamban	37	29·899		29·863	30·110	29·735	·375	·149	81·8	88·1		77·4		82·8		10·8	94·8	69·2	25·6	17·5
		Tinnevelly	168	29·768	+·016	29·867	30·000	29·591	·409	·159	81·7	93·9	−0·3	76·5	−0·1	85·2	−0·2	17·5	105·0	63·9	41·1	27·3
		Madura	447	29·483	+·019	29·868	29·706	29·302	·404	·160	80·9	93·4	−0·5	74·2	+0·3	83·8	−0·1	19·2	104·5	62·2	42·3	28·5
		Periyakulam	945	28·990			29·205	28·810	·395	·152	77·4	92·1		70·2		79·9		22·0	102·3	55·1	47·2	32·6
34	Madras, South Central	Salem	940	29·007	+·001?	29·893	29·227	28·815	·412	·164	78·2	92·7	−0·2	71·5	+0·8	82·1	+0·3	21·3	105·2	55·0	50·2	32·4
		Coimbatore	1,348	28·591	+·016	29·894	28·806	28·403	·358	·154	75·9	89·7	−0·6	70·4	+0·8	80·1	+0·1	19·3	100·9	58·2	42·7	29·5
35	Coorg	Mercara	3,781	26·253	+·021?		26·405	26·092	·313	·131	65·4	76·8	+0·3	61·5	+0·2	69·2	+0·3	15·3	89·0	50·1	38·9	24·5

* Mean of 11 months
† ,, ,, 10 ,,

I—*contd.*

at 225 stations in India, Burma, etc., in the year 1902—contd.

Wind direction. Number of winds from: Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Wind velocity. Mean velocity in miles per hour, from anemometer (if recorded).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Hygrometry 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days of year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
																			30·85	39·99	−9·81		IX.—Deccan.		
61	16	27	47	35	14	72	76	17	14·1		15·7	−10	73	·571	4·8	78	70·70	+ 7·30	52·97	50·13	+ 2·84	6·50	Belgaum	Bombay, Deccan.	
4	16	29	35	76	8	58	38	86	11·2	13·6	8·9	+53	56	·523	4·3	35	42·00	− 7·00	30·41	30·98	− 0·57	5·69	Sholapur.		
31	5	9	29	10	7	75	108	73	10·5	11·9	10·0	+19	67	·534	3·8	44	49·60	− 5·60	23·90	27·89	− 3·99	1·90	Poona.‖		
65	24	24	30	16	18	49	98	41					68	·606	4·7	38	42·40	− 4·40	19·05	24·58	− 5·53	1·68	Bijapur.		
	26	15	9	8	14	63	135	95	7·0	8·1	7·2	+13	56	·506	4·2	36	34·90	+ 1·10	21·86	24·08	− 2·22	1·54	Malegaon	Khandesh.	
76	33	26	5	32	23	30	38	102	7·2	8·8			61	·516	3·8	32	39·60	− 7·60	29·10	22·42	+ 6·68	5·86	Ahmednagar.		
37	4	17	40	22	11	23	74	82	5·9	5·8	5·5	+ 5	56	·526	3·5	39	44·40	− 5·40	27·15	34·16	− 6·71	2·21	Akola	Berar.	41
	15	67	56	17	30	63	84	33	8·5	7·5	4·7	+60	56	·554	3·7	41	46·80	− 5·80	28·30	34·63	− 6·33	3·26	Amraoti.		
37	8	5	36	24	8	17	100	80	7·1		5·4	+31	58	·521	3·0	40	42·30	− 2·30	33·68	31·35	+ 2·33	4·02	Khandwa	Central Provinces West.	42
8		142		24		173		18	3·9	4·0	3·0	+33	64	·561	2·7	48	56·00	− 8·00	36·31	52·08	−15·77	2·91	Hoshangabad.		
47	75	46	24	10	13	29	42	79	6·5		6·4	+ 2	56	·511	3·6	46	58·60	−12·60	28·24	49·49	−21·25	3·53	Nagpur.		
138	13	16	25	33	23	33	48	36	4·6		3·7	+24	62	·596	2·9	42	61·70	−19·70	29·21	55·75	−26·54	3·19	Chanda	Central Provinces, Central.	43
	70	75	20	24	38	45	41	52	4·6		3·9	+18	57	·487	2·6	52	71·40	−19·40	30·24	55·27	−25·03	1·84	Seoni.		
38	6	18	12	68	75	52	70	26	3·2	2·9	3·3	−12	66	·529	2·6	49	63·90	−14·90	37·21	59·11	−21·90	3·72	Jubbulpore.		
1	9	31	48	64	36	42	127	7	5·8	6·6	3·5	+89	53	·483	3·1	42	58·10	−16·10	36·50	48·57	−12·07	4·14	Saugor.		
56	20	15	27	16	6	45	110	70	4·5	4·8	6·1	−21	60	·516	3·9	54	54·60	− 0·60	35·56	45·88	−10·32	2·64	Sutna	Central India.	49
90	12	34	20	11	21	119	28	30	5·2	4·8	5·6	−14	56	·525	2·3	43	62·50	−19·50	28·12	50·65	−22·53	2·37	Raipur	Central Provinces, East.	44
	34	56	35	43	33	84	43	36	4·3	4·2	2·3	+83	68	·657	2·8	61	72·00	−11·00	53·33	67·39	−14·06	4·70	Sambalpur.‡		
81	9	20	59	30	2	38	94	32	9·6	9·4			56	·503	3·3	51	47·40	+ 3·60	35·29	30·45	+ 4·84	4·02	Aurangabad.	Hyderabad, North	39
123	34	16	1	10		21	14	77	7·1	6·0			61	·586	3·4	47	58·30	−11·30	32·57	39·57	− 7·00	3·66	Indur.§		
13	12	51	39	31	12	170	17	20	9·7	8·2			67	·619	1·1	42	59·10	−17·10	26·69	39·71	−13·02	1·68	Bidar.		
61	27	37	59	21	17	32	67	42	10·2	9·7			66	·630	3·8	45	48·70	− 3·70	27·36	31·75	− 3·89	4·55	Gulbarga	Hyderabad, South	53
36	6	16	39	64	18	106	41	35	10·5	10·0			63	·624	2·1	47	44·20	+ 2·80	24·63	30·72	− 6·11	4·85	Raichur.		
175	4	2	26	17		52	106	13	5·2	5·1			69	·613	4·0	43			24·97	31·56	− 6·59	2·18	Hyderabad (Dn.)		
63	10	36	67	34	3	21	69	62	7·1		6·5	+9	70	·611	3·4	43	52·70	− 9·70	25·96	31·56	− 5·60	4·60	Secunderabad.		
79	21	3	4	93	49	24	51	41	8·3	7·0			68	·655	4·5	45	51·40	− 6·40	22·59			1·67	Hanumkonda.		
																			116·06	101·74	+14·32		X.—West Coast.		
2	39	77	89	29	20	34	68	27	10·0		12·2	−18	78	·802	4·3	65	75·60	−10·60	71·97	75·21	− 3·24	5·97	Bombay	Konkan.	37
73	21	19	64	57	14	29	44	43	6·3	6·2	10·2	−39	75	·761	4·1	93	93·30	− 0·30	96·62	107·35	−10·73	4·83	Ratnagiri.‡		
32	37	33	84	43	17	7	42	70	8·6				83	·837	4·6	108			128·49	93·43	+35·06	7·73	Mormugao.		
20	32	82	114	8	17	24	38	30					81	·811	5·1	100			131·24	98·43	+32·81	7·39	Goa.		
93	35	71	75	4	1	41	28	17	4·4				81	·766	3·9	114	105·50	+ 8·50	151·83	123·78	+28·05	12·16	Karwar.		
36	100	117	39	7	3	11	15	37	5·2				81	·824	4·2	132	130·60	+ 1·40	118·09	115·63	+ 2·46	4·73	Cochin	Malabar.	33
61	43	93	59	20	7	7	8	37	7·4	9·4			83	·827	5·3	119	116·10	+ 2·90	135·97	115·11	+20·86	9·14	Calicut.		
153	10	8	33	62	3	5	8	28	2·7		3·4	−21	81	·813	5·4	111	117·90	− 6·90	150·61	123·94	+26·67	9·30	Mangalore.		
128	77	37	25	3	1	2	10	82	5·0				81	·795	5·5	98	92·90	+ 5·10	59·76	62·78	− 3·02	2·67	Trivandrum.		
																			41·93	36·15	+ 5·78		XI.—South India.		
5	32	84	46	99	27	94	15	13	9·9	10·5			82	·892	3·3	57	42·70	+14·30	48·11	38·97	+ 9·14	5·02	Pamban	Madras, South.	57
1	88	37	12	8	10	22	75	112	5·3	5·1			73	·788	4·9	58	41·40	+16·60	43·49	28·63	+14·86	3·17	Tinnevelly.		
84	101	56	11	10	4	20	9	70	2·3	2·3	4·2	−45	75	·785	4·3	64	50·20	+13·80	46·42	33·30	+13·12	3·04	Madura.		
211	25	14	21	14	21	21	26	12	2·7	2·9			73	·628	4·7	64	48·30	+15·70	37·25	28·86	+ 8·39	2·43	Periyakulam.		
165	3	20	63	2	14	54	37	7	3·2	2·9	4·4	−34	79	·774	5·1	80	59·50	+20·50	48·65	40·50	+ 8·15	4·55	Salem	Madras, South, Central.	34
1		40	139	9	24	66	86		3·5*	3·2*	4·9*	−35	84	·763	4·8	61	43·60	+17·20	36·28	20·90	+15·38	3·05	Coimbatore.		
173	17	36	33	1		1	83	21	4·9	4·5	5·3	−22	88	·565	7·7	126	134·70	− 8·70	120·65	125·94	− 5·29	7·13	Mercara	Coorg.*	35

‡ Wind observation of 364 days.

§ Wind observation of 295 days.

‖ Wind observation of 347 days.

Table

Abstract of observations taken at 8 A. M.

Number of District.	Meteorological Province or District.	Station.	Elevation of bar cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of air.										
				Mean actual pressure (reduced to 32°). *	Variation from normal.	Mean pressure reduced to sea-level and to constant gravity 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
36	Mysore	Chitaldroog	2,405	27·534	+·010	29·866	27·738	27·299	·439	·157	74·5	87·6	+1·1	68·4	+1·2	78·0	+1·2	19·3	101·7	52·5	49·2	29·5
		Bangalore	3,021	26·959	+·012	29·291	27·132	26·772	·370	·150	70·6	85·9	+0·8	64·9	+0·3	74·9	+0·8	29·1	97·8	50·9	46·9	30·9
		Hassan	3,091	26·895	+·012	29·200	27·076	26·711	·365	·140	71·6	82·7	−0·1	63·1	+0·9	72·9	+0·5	19·5	94·9	48·7	46·2	30·7
		Mysore	2,518	27·451	+·013	29·900	27·626	27·278	·348	·148	72·6	86·8	+0·4	66·2	+0·5	76·5	+0·5	20·6	97·6	52·9	44·7	30·7
56	Madras, East Coast, South.	Negapatam	31	29·890	+·009	29·850	30·122	29·657	·435	·160	82·1	89·7	−0·2	77·7	+1·8?	83·7	+0·8?	12·0	105·1	65·0	40·1	22·2
		Cuddalore	12	29·912	+·018	29·853	30·155	29·691	·464	·176	80·6	90·2	−0·2	75·4	+1·3	82·8	+0·5	14·8	105·2	63·2	42·0	24·2
		Trichinopoly	255	29·681	+·016	29·870	29·925	29·485	·440	·164	80·2	94·2	−0·2	74·7	+0·6	84·4	+0·2	19·5	105·7	59·9	45·8	29·4
		Madras	22	29·898	+·010	29·850	30·165	29·658	·507	·188	81·3	91·3	+0·1	75·4	+0·7	83·2	+0·4	15·6	108·0	62·0	46·0	26·2
		Vellore	707	29·208		29·861	29·460	29·010	·450	·180	78·0	92·2		73·3*		83·2*		19·8*	108·3	51·4	56·9	34·4*
55	Madras, East-Coast, Central.	Nellore	71	29·845	+·028	29·850	30·126	29·588	·538	·198	81·2	93·6	−0·7?	75·7	+0·6	84·6	−0·1?	17·9	112·3	61·1	51·2	28·9
		Masulipatam	15	29·900	+·028	29·849	30·206	29·598	·608	·206	80·6	91·1	+0·5	74·9	+0·5	83·0	+0·5	16·2	113·2	58·2	55·0	29·0
54	Madras, Central	Cuddapah	433	29·483	+·012	29·856	29·739	29·242	·497	·193	81·8	96·3	+0·8	75·0	+0·6	85·7	+0·7	21·3	111·3	54·3	57·0	34·8
		Kurnool	945	28·975	+·017	29·865	29·229	28·702	·527	·199	77·6	95·1	+1·4	71·7	+1·1	83·4	+1·3	23·5	112·3	44·2	68·1	35·6
		Bellary	1,475	28·448	+·021	29·876	29·688	28·199	·489	·185	77·8	94·3	+1·2	71·9	+1·2	83·1	+1·2	22·4	108·5	53·1	55·4	34·0
52	Madras, East-Coast, North.	Cocanada	26	29·874	+·022*	29·836	30·178	29·551	·627	·215	80·2	90·6	+1·2	75·5	+0·6	83·1	+0·9	15·1	112·5	57·0	55·5	28·8
		Waltair (Vizag.)	226	29·664	+·012?	29·833	29·984	29·297	·687	·219	80·4	87·3	−1·8?	75·7	+0·7	81·5	−0·7?	11·6	102·9	60·0	42·9	22·2
		Gopalpur	21	29·853?	+·022?	29·814?	30·195	29·393	·802	·234	78·1	85·7	+0·7	72·6	−0·6	79·7	+0·1	14·0	104·3	49·6	55·2	24·6
	XII.—Hill Stations.																					
42	Baluchistan	Pishin										77·9		42·1		60·0		35·8	103·4	3·0	100·4	54·9
		Quetta	5,502	24·650	+·029		24·887	24·331	·556	·210	56·7	76·4	+2·9	45·3	+0·9	60·9	+1·9	31·1	98·6	11·8	86·8	49·9
		Kalat*									61·0	78·3	+1·9	32·5	−3·8?	55·4	−1·0?	45·8	102·4	0·2	102·2	67·1
		Chaman	4,311	25·677	+·005		25·986	25·256	·730	·248	67·3	81·6	+2·3	56·2	+1·8	68·8	+2·0	25·4	108·2	16·1	92·1	44·7
30	Punjab and North-West Frontier Province.	Leh	11,503	19·732	+·029		19·964	19·317	·647	·343	37·0	54·0	−1·5	29·4	−0·4	41·7	−1·0	24·6	81·7	0·5	81·2	41·9
		Srinagar	5,204	24·921	+·033		25·223	24·554	·669	·323	48·5	69·0	+3·1	43·3	−0·7	56·2	+1·2	25·7	91·9	11·1	80·8	43·9
		Sonemarg		21·853			22·073	21·469	·604	·300	36·6	54·8		29·4		42·1		25·4	81·3	−9·9	91·2	48·8
		Skardu		22·893			23·303	22·466	·837	·423	47·3	68·9		41·6		52·8		22·3	100·1	7·1	93·0	41·3
		Dras		20·824			21·110	20·368	·742	·354	31·6	50·8		21·4		36·1		29·4	88·0	−29·4	117·4	54·7
		Gilgit	4,890	25·157			25·610	24·709	·901	·440	57·8	73·5	+0·8	52·5	−0·7	63·0	0	21·0	107·0	21·9	85·1	40·7
		Chitral		24·428			24·850	23·975	·875	·329	56·3	75·9		48·4		62·2		27·5	105·2	25·0	80·2	44·5
		Killa Drosh									58·1	74·7		53·9		64·3		20·8	103·7	29·4	74·3	39·1
		Para Chinar	6,000	24·462			24·727	24·171	·556	·264	59·2	71·8		50·0		60·9		21·8	99·1	22·2	76·9	39·7
		Cherat		25·698	+·029		25·931	25·362	·569	·266	63·5	75·5	+1·8	58·0	+1·2	66·8	+1·5	17·5	105·9	35·0	70·9	37·6
		Murree	6,333	23·849	+·020		24·061	23·575	·486	·250	57·3	65·7	0	49·0	−1·3	57·4	−0·9	16·7	90·4	28·0	62·4	36·3
		Poo										62·1		41·6		51·9		20·5	85·1	20·4	64·7	35·6
		Simla	7,224	23·120	+·029		23·315	22·876	·439	·207	53·9	61·5	+0·7	50·2	+0·3	55·9	+0·5	11·3	83·5	31·2	52·3	25·3
25	United Provinces	Chakrata	7,022	23·283	+·018		23·490	23·029	·461	·207	53·8	64·2	0	50·1	+0·4	57·2	+0·2	14·1	79·3	32·4	46·9	28·4
		Mussooree	6,705	23·557	+·024		23·782	23·294	·488	·219	55·4	63·7	−0·4	51·1	+0·4	57·4	0	12·6	83·3	32·0	51·3	26·6
		Ranikhet	6,069	24·109	+·024		24·322	23·824	·498	·212	58·1	68·4	+0·5	53·8	+0·5	61·1	+0·5	14·6	86·0	33·5	52·5	27·9
		Muktesar	7,600	22·852			23·049	22·607	·442	·204	54·5	65·0		48·5		56·8		16·5	84·6	28·1	56·5	30·4
13	Bengal	Yatung	10,480?									53·9		34·5		44·2		19·4	69·1	15·9	53·2	33·3
		Darjeeling	7,376	23·006	0		23·202	22·784	·418	·202	53·0*	59·9*	+0·4*	48·3*	−0·3*	54·1*	+0·1*	11·6*	71·7	30·4	41·3	22·2

* Mean of 11 months.

I—*contd.*

at 225 stations in India, Burma, etc., in the year 1902—contd.

Wind direction. Number of winds from								Wind velocity.				Hygrometry 8 A.M.		Mean cloud amount of year.	Rainfall.					Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Mean velocity in miles per hour, by anemometer uncorrected.	Mean velocity Corrected (where possible).	Normal.	Percentage variation.	Mean humidity of year.	Mean vapour tension of year.		Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.			
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	46	49
30	4	12	60	46	8	70	106	29	8·5	7·3			71	·604	4·9	46	48·50	− 2·50	30·24	26·33	+ 3·91	3·59	Chitaldroog.	Mysore.	36
7	6	23	92	29	17	79	95	11	9·3	8·2	5·2	+58	78	·588	5·4	49	58·69	− 9·60	32·62	35·06	− 2·44	4·48	Bangalore.		
16	4	44	69	42	9	42	83	56	2·6	3·2			76	·586	5·9	62	68·20	− 6·20	42·47	35·09	+ 7·38	5·35	Hassan.		
7	8	56	54	21	10	111	74	24	8·3	8·9			77	·615	6·5	62	55·90	+ 6·10	30·95	30·91	+ 0·05	4·39	Mysore.		
60	16	57	8	30	20	92	41	41	8·1	7·1	5·6	+ 27	76	·816	4·9	75	58·20	+16·80	66·40	55·56	+10·84	3·85	Negapatam . .	Madras, East Coast, South.	56
283	8	4	4		6	25	22	13	1·6	2·0			80	·838	7·0	78	56·30	+21·70	72·20	52·58	+19·62	5·62	Cuddalore.		
191	7	35	4	3	7	31	82	5	4·1		5·8	− 29	76	·778	4·2	62	44·60	+17·40	39·80	32·54	+ 7·26	2·12	Trichinopoly.		
1	48	42	15	6	105	65	55	28	6·7		7·1	− 6	77	·870	4·7	63	83·70	−20·70	54·44	50·39	+ 4·05	9·16	Madras.		
181	3	16	11	26	8	42	16	61	3·5	3·5			76	·720	5·3	66	54·90	+11·10	44·53	38·47	+ 6·06	4·53	Vellore,†		
54	36	2	3	42	62	16	55	95	5·8				75	·788	5·6	64	92·40	+21·60	61·38	30·73	+30·65	7·35	Nellore . .	Madras, East Coast, Central.	55
43	79	38	7	21	43	29	50	55	8·6	8·4	7·0	+ 20	85	·898	5·1	53	51·00	+ 2·02	49·75	40·91	+ 8·84	9·50	Masulipatam.		
	4	58	44	67	2	48	80	62					67	·726	4·1	47	43·70	+ 3·30	27·18	32·69	− 5·51	3·14	Cuddapah . .	Madras, Central.	54
135	16	17	21	14	8	34	82	38					65	·621	4·0	39	47·60	− 8·60	19·55	28·40	− 8·85	1·48	Kurnool.		
66	14	10	33	41	26	37	82	56	6·5	6·9	6·5	+ 6	63	·600	4·4	35	32·30	+ 0·70	22·20	19·73	+ 2·47	2·90	Bellary.		
36	49	57	4	8	13	98	43	57	8·9	7·5			78	·814	4·7	49	53·90	− 4·90	44·59	39·84	+ 4·75	6·40	Cocanada . .	Madras, East Coast, North.	52
7	6	85	5	5	25	208	19	5	12·7				71	·742	5·5	43	49·60	− 6·60	33·73	43·54	− 9·81	3·93	Waltair (Vizag.).		
6	100	3	3	2	46	105	12	88	14·1	13·9	9·6	+ 45	80	·781	2·3	53	55·20	− 2·20	32·19	47·53	−15·34	2·96	Gopalpur.		
																							XII.—Hill Stations.		
																8	23.20	−15·20	2·82	9·98	− 7·16	0·45	Pishin. . .	Baluchistan.	43
339		3	1	8	3	2	6	3	1·7	1·8	4·1	− 56	58	·288	1·5	10	26·80	−16·80	3·90	10·68	− 6·78	0·54	Quetta.		
	49		56		216		9						47	·261		9	16·80	− 7·80	2·50	5·14	− 2·64	0·61	Kalat.‡		
118	11	8	26	57	50	63	16	16	7·5	8·2			43	·293	2·0	6	19·60	−13·60	2·68	6·29	− 3·61	0·69	Chaman.		
	11	97	71	19	61	56	46	4	2·4				53	·133	4·1	9	9·30	− 0·30	2·93	3·00	− 0·07	0·49	Leh . . .	Punjab and North-West Frontier Province.	30
152	20	17	14	62	59	6	12	21	3·1	3·3			88	·348	3·8	53	56·50	− 3·50	22·41	24·74	− 2·33	1·27	Srinagar		
141	22	95	37	28	10	3	26	13	4·9	4·4			82	·201	3.3	97			55 49			3·16	Sonemarg.		
215	8	37	16	2	17	39	30	1	4·1	4·3			66	·216	4·1	11	17·00	− 6·00	5·23	10·45	− 5·22	0·70	Skardu.		
283	1	6	10	13	3	23	18	8	3·8	3·9			80	·174	3·9	39	61·10	−22·10	16·45	24·53	− 8·08	1·33	Dras.		
322	1		4	1		20	13	1	3·4	3·1			47	·239	5·0	20	14·00	+ 6·00	6·02	4·80	+ 1·22	0·75	Gilgit.§		
324	12	2	6	2	9		3	3					62	·284	2·4	28			8·49			0·48	Chitral.‖		
279	1	4	19		3	3	26						49	·251	2·3	39			12·01			0·82	Killa Drosh. ¶		
289	25	12	8	3	4	6	7	11	3·6				51	·268	3·0	57	56·20	− 1·20	21·18	25·18	− 4·00	1·50	Para Chinar.		
1	62	77	2	37	37	30	3	116	8·5	7·9			44	·289	2·4	23			12·74	24·43	−11·69	2·25	Cherat.		
198	20	14	15	52	25	5	6	30	5·6*	6·2*			54	·281	3·1	61	77·30	−13·30	40·55	55·85	−15·30	1·93	Murree		
268	1	13	21	25	10	13	3	4							3·9	44			21·47	18·56	+ 2·91	1·73	Poo.**		
88	105	30	22	33	36	3	1	39					54	·246	3·9	75	80·10	− 5·10	40·36	63·59	−23·23	1·65	Simla.§§		
153	118	29		8	25	2		20	8·8		5·1	+ 73	61	·278	3·6	71	88·00	−14·00	58·65	70·71	−12·06	3·93	Chakrata. †† . .	United Provinces.	25
26	8	12	96	40	19	27	102	35					61	·294	3·3	81	87·60	− 6·60	87·60	96·26	− 8·66	5·77	Mussooree.		
180	12	24	28	10	4	49	37	21	2·7	3·1	2·1	+ 43	63	·326	3·3	66	79·70	−13·70	40·37	54·52	−14·15	3·42	Ranikhet.		
19	15	17	30	105	20	24	14	121	6·1	5·6			60	·276	3·3	71			42·18			2·92	Muktesar.		
																125	125·25	− 0·25	60·53	49·48	+11·05	4·76	Yatung . .	Bengal.	13
147	9	33	31	50	8	27	33	16	4·5	4·2	3·7*	+ 14	84*	·364*	5·2	138	121·09	+16·91	150·78	124·38	+26·40	12·20	Darjeeling.‡‡		

† Wind observations of 364 days.
‡ " " " 330 "
§ " " " 362 "
‖ " " " 361 "
¶ Wind observations of 335 days.
** " " " 363 "
†† " " " 355 "
‡‡ " " " 364 "
§§ " " " 357 "

Table

Abstract of observations taken at 8 A.M.

Number of District.	Meteorological Province or District.	Station.	Elevation of barometer cistern above sea-level in feet.	Pressure 8 A.M. in inches.							Temperature of air.											
				Mean actual pressure (reduced to 32°).	Variation from normal.	Mean pressure reduced to sea-level and to constant 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. of year.	Mean maximum of year.	Variation from normal of year.	Mean minimum of year.	Variation from normal of year.	Mean daily temperature of year.	Variation from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Central India.	Mount Abu	3,945	26·043	+·014		26·296	25·696	·600	·209	69·0	77·6	+1·5	63·7	+1·7	70·7	+1·6	13·9	95·2	45·1	50·1	25·4
		Pachmarhi	3,528	26·445	+·019		26·694	26·031	·663	·204	70·2	82·6	+3·1	62·7	+1·5	72·7	+2·3	21·9	101·7	32·3	69·4	33·2
	South India.	Wellington*	6,200	24·263	+·011		24·417	24·111	·306	·125	61·6	71·6	+1·9	52·9	−0·4	62·3	+0·3	18·7	81·2	34·7	46·5	30·5
		Kodai kanal	7,688	22·963			22·968	22·719	·249	·107	54·3	64·7		51·3		56·4		13·3	75·2	39·4	35·8	22·5
		Ootacamund		23·075			23·194	22·929	·265	·112	58·2	65·5		50·0		57·7		15·4	75·6	35·1	40·5	26·4
	XIII.—Extra India.																					
	Ceylon	Trincomalee	12	29·926	F	29·864	30·123	29·768	·355	·143	80·3	88·5	−0·1	76·5	+0·1	82·5	0	12·0	98·0	69·0	29·0	18·3
		Colombo	40	29·912	+·007	29·878	30·077	29·788	·289	·136	80·4	88·1	+1·1	75·3	−0·2	81·7	+0·4	12·8	93·5	65·0	28·5	18·8
	Persia	Meshed	3,104								56·7			47·2	+1·4					4·0		
		Teheran		25·934			26·440	25·550	·890	·412	62·2	75·3	+2·3	52·9	+1·9	64·1	+2·1	22·4	107·0	15·0	92·0	44·6
		Ispahan		24·302			24·640	23·970	·670	·382	58·0	75·5	+1·4	45·6	+0·4	60·6	+0·9	29·9	103·5	16·9	86·6	47·0
		Bushire	14	29·871	+·010	29·844	30·422	29·397	1·025	·329	73·7	82·9	+0·8	69·7	+1·2	76·3	+1·0	13·2	109·0	44·3	64·7	31·7
		Bahrein	30	29·868			30·451	29·431	1·020	·301	77·8*	84·8*		69·7*		77·3*		15·1*	106·7	44·9	61·8	31·6*
		Jask		29·945	−·022		30·348	29·359	·989	·280	79·9	87·8	+1·2	75·1	+1·7	81·5	+1·5	12·7	110·2	55·3	54·9	25·8
		Muscat	20	29·857	−·002	29·824	30·338	29·352	·986	·291	82·0	91·2	+0·8	79·9	+1·2	82·1	+1·0	4·3	100·5	65·2	35·3	13·9
	Arabia	Baghdad	228	29·775	−·011†	29·977	30·305	29·320	·985	·399	68·4	83·3	+3·2	61·9	+2·7	75·2	+3·0	26·4	119·6	28·5	83·1	38·3
		Bussrah		29·931			30·508	29·433	1·075	·366		85·2		67·4		76·3		17·8	111·4	32·5	78·9	36·0
		Aden	94	29·813	−·013	29·839	30·156	29·471	·685	·204	82·6	88·5	+0·3	78·6	+0·9	83·6	+0·6	9·9	98·3	68·5	29·8	19·2
		Perim	201	29·698	+·009	29·832	30·022	29·430	·592	·165	83·7	90·2	+0·4	80·2	+1·1	85·3	+0·8	10·0	102·9	72·2	30·7	17·0
	Afghanistan	Kabul									52·5	75·2	+3·2	42·1	−0·4	58·7	+1·5	33·1	102·1	18·4	83·7	50·6
	Central Asia	Kashgar	4,255	25·614			26·140	25·180	·960	·494	50·8	68·1	+1·9	43·5	0	55·8	+0·9	24·6	102·3	−4·2	106·5	47·4
	Arabian Sea Islands.	Amini Devi	13	29·938	+·011	29·879	30·115	29·765	·350	·149	84·1	88·2	+2·0†	77·7	+0·8	83·0	+1·3†	10·6	97·6	67·8	29·8	18·3
		Minicoy	7	29·951		29·883	30·105	29·825	·280	·129	82·2	86·7	+0·2						92·1			
	Africa	Zanzibar	73	29·986	−·006	29·986	30·151	29·818	·333	·147	78·8	84·1	+0·5	76·8	+0·3	80·5	+0·4	7·4	91·9	71·1	20·8	13·2
		Do. Dunga									77·7	87·7		70·2		79·0		17·6	97·8	62·1	35·7	25·3
	Straits Settlements.	Penang‡	20	29·914		29·859	29·992	29·809	·183	·118	81·7	88·6		74·2		81·9		15·4	95·0	71·0	24·0	19·4
		Singapore‡	10	29·932		29·863	30·029	29·827	·202	·121	83·7	87·5		72·7		80·1		14·8	92·2	67·4	24·8	20·0

* Mean of 11 months. † Mean of 10 months. ‡ Nine hours' observations.

NOTE.—When a query is inserted against any reading or in the variation returns of any

I—*concld.*

at 225 stations in India, Burma, etc., in the year 1902—concld.

Wind direction. Number of winds from: Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Wind velocity. Mean velocity in miles per hour, hourly observations (uncorrected).	Mean velocity corrected (where possible).	Normal.	Percentage variation.	Hygrometry 8 A.M. Mean humidity of year.	Mean vapour tension of year.	Mean cloud amount of year.	Rainfall. Number of rainy days during year.	Normal number of rainy days during year.	Variation.	Rainfall of year.	Normal rainfall of year.	Variation from normal.	Heaviest rainfall during year.	Station.	Meteorological Province or District.	Number of District.
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
70	26	49	8	16	15	119	28	34	8·7	8·8	7·0	+26	51	·363	3·1	40	52·20	−14·20	30·99	61·73	−31·24	4·87	Mount Abu	Central India.	
146	20	6	9	25	8	27	51	73	6·7	6·9	5·2	+33	59	·432	3·6	67	78·20	−12·20	52·44	76·21	−23·77	5·23	Pachmarhi.		
163	19	32	17	26	9	47	5	3	2·9		3·4	−15	72	·403	5·4	98	86·80	+11·20	72·14	50·75	+21·39	3·54	Wellington(g).	South India.	
3	41	71	59	49	16	5	40	81					70	328	4·4	123	59·40	+23·60	72·53	64·82	+ 7·71	4·08	Kodaikanal.		
126	3	21	44	22	6	22	41	13	3·8†	3·6†			71	·359	5·1	122	90·70	+31·30	66·05	46·60	+19·45	4·03	Ootacamund§.		
																							XIII.—Extra India.		
112	1	46				201		5					87	·306	3·0	94			76·73	62·37	+14·36	3·58	Trincomalee	Ceylon.	
11	45	66	71	35	41	83	10	3	7·4		7·6	−3	84	·879	5·2	144			118·37	89·59	+28·78	6·09	Colombo.		
													63	·378	2·9	22			10·24	8·29	+2·05	1·39	Meshed	Persia	
120	27	91	18	7	24	38	14	15	2·3	3·0			46	·250	3·0	30			9·59	9·49	+0·10	1·08	Teheran.(a).		
265	7	6	6	2	2	15	43	14	3·0	3·8			60	·312	2·0	21			8·69	3·64	+5·05	1·73	Ispahan.(b).		
25	79	86	29	30	7	6	11	90	7·9	9·4			68	·614	2·3	20			11·21	12·11	−0·90	2·05	Bushire.(c).		
3	50	23	24	17	31	22	63	95					81*	·805*		3			0·56			0·24	Bahrein(d)	Arabia.	
26	38	37	110	42	2	3	29	59	11·6	13·2			72	·753	1·2	5			1·62	4·46	−2·84	0·52	Jask.(e).		
14	2	7		185	3	37	7	106	4·1	4·3			71	·785	0·8	6			2·07	4·43	−2·36	0·98	Muscat(f).		
220	50	3	4	5	15	2	17	36	2·0	2·6			55	·379	2·1	20			7·22	9·04	−1·82	0·91	Baghdad(h)	Arabia.	
																21			7·12			1·74	Bussrah.		
11	2	107	109	38	21	33	8	2	13·1	11·9	11·5	+3	73	·818	4·4	0			0·13	2·97	−2·84	0·05	Aden.(i).		
2	4	21	95	130	11	47	29	26	18·9	17·0			79	·925	1·4	3			2·06	1·92	+0·14	1·35	Perim.		
		24	58	78	75	120	6	6					54	·209	2·4	23			6·97	11·35	−4·38	0·74	Kabul	Afghanistan.	
281	6	1	5	3	16	4	6		1·9	1·7					1·3	3			2·18	3·99	−1·81	1·00	Kashgar(k)	Central Asia.	
3	108	51	21	3	14	15	56	24					75	·371	6·6	95			75·49	48·41	+27·08	5·13	Amini Devi	Arabian Sea Islands.	
	53	63	30	25	15	47	70	62	7·6	8·1			79	·871	5·3	111			81·99	57·48	+24·51	3·67	Minicoy.		
4	40	52	26	50	116	68	5	3	7·3	6·8			85	·844	7·2	94			65·49	55·04	+10·45	4·32	Zanzibar(l)	Africa.	
88	9	63	2	28	23	95	2	8	5·5	5·3			87	·831	5·8	106			76·33			2·89	Do. Dunga;(m).		
58	49	108	7	45	25			14							5·9	127			82·20			3·68	Penang(n)	Straits Settlements.	
6	24	41	57	99	27	19	10	30							4·9	92			50·67			3·66	Singapore(o)		

station, the data for that station are not utilized in calculating the provincial variations.

(a) Wind observation of 298 days.
(b) " " " 355 "
(c) " " " 360 "
(d) " " " 363 "
(e) Wind observation of 328 days.
(f) " " " 346 "
(g) " " " 361 "
(h) " " " 321 "
(i) Wind observation of 352 days.
(k) " " " 331 "
(l) " " " 322 "
(m) " " " 304 "
(m) Wind observation of 318 days.
(n) " " " 306 "
(o) " " " 304 "

TABLE II.—Abstract of Observations taken at 10 A.M. and 4 P.M., at 63 Stations in India, Burma, etc., in the year 1902.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

Meteorological Provinces.	Station.	Elevation of bar cistern above sea-level in feet.	Pressure.						Temperature of air.									
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean daily pressure.	Variation from normal.	Mean reduced to S. L. and for gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.
1	2	3	4	5	6		8	9	10	11	12	13	14	15	16	17	18	19
Burma Coast and Bay Islands.	Port Blair	61	29·883	29·787	·096	29·833	+·024	29·824	87·5	77·6	9·9	96·4	69·4	27·0	84·3	84·9	81·4	+0·3
	Rangoon	57	·851*	·737*	·114	·793*	?	·777*	89·2	73·3	15·9	102·9	61·2	41·7	82·7	85·8	79·3	+0·5
	Diamond Island	41	·894	·791	·103	·839	+·004	·815	86·9	77·0	9·9	96·4	70·2	26·2	82·6	82·9	80·5	+1·6
	Akyab	20	·898	·793	·105	·846	+·010	·808	86·2	71·5	14·7	96·0	50·5	45·5	80·3	82·8	78·1	−0·3
Bengal and Orissa	Chittagong	87	·820	·712	·108	·766	+·008	·801	85·2	68·4	16·8	95·7	48·4	47·3	80·0	82·1	76·2	−0·2
	Calcutta (Alipore)	21	·866	·751	·115	·806	+·021	·772	87·5	70·5	17·0	99·7	48·4	51·3	81·6	85·1	78·5	+0·5
	Saugor Island	25	·858	·750	·108	·802	+·019	·771	86·5	74·0	12·5	95·0	51·3	43·7	82·2	83·8	79·1	+0·8
	False Point	21	·868	·762	·106	·816	+·011	·778	86·0	72·0	14·0	96·7	47·3	49·4	83·0	83·2	77·8	+0·1
Gangetic Plain and Chota Nagpur.	Hazaribagh	2,007	27·853	27·756	·097	27·804	+·009	·747	86·0	66·7	19·3	106·2	44·0	62·2	79·1	82·3	75·3	+1·4
	Darbhanga	166	29·706	29·580	·126	29·642	+·008	·763	86·2	68·3	17·9	102·8	43·8	59·0	79·7	84·6	76·6	−0·1
	Allahabad	309	·554	·455	·119	·490	+·011	·752	91·5	66·9	24·6	113·0	36·4	77·5	83·3	89·4	78·3	+0·5
Upper Sub-Himalayas.	Dehra Dun	2,233	27·628	27·542	·086	27·576	+·005	·766	82·3	59·8	21·5	102·3	37·4	64·9	73·9	78·7	70·4	−0·1
	Roorkee	869	28·945	28·840	·105	28·885	+·003	·753	87·4	61·2	26·2	108·7	30·9	77·8	77·7	84·6	73·5	−0·5
	Meerut	738	29·096	·996	·100	29·038	−·001	·743	88·9	63·7	25·2	109·4	34·1	75·3	78·3	85·8	75·3	+0·4
	Lahore	702	·134	29·038	·095	·079	+·005	·748	91·1	63·3	27·8	117·4	31·5	85·9	80·0	89·2	76·2	+2·6
	Ludhiana	812	·027	28·932	·095	28·972	+·010	·754	88·2	63·8	23·4	114·1	34·0	80·1	78·2	86·2	75·6	+1·6
N.-W. Frontier Province Indus Valley and N.-W. Rajputana.	Peshawar	1,110	28·755	·643	·112	·692	−·001	·733	87·8	60·0	27·8	147·5	28·4	89·1	77·9	84·3	72·7	+1·8
	Jacobabad	186	29·645	29·530	·116	29·581	−·002	·723	98·8	67·0	31·8	125·4	31·3	93·6	86·0	95·7	81·6	+2·6
	Kurrachee	30	·857	·762	·095	·808	+·004	·738	90·1	72·1	18·0	106·5	46·4	60·1	83·8	85·6	79·3	+2·4
Eastern Rajputana, Central India and Gujarat.	Jaipur	1,431	28·447	28·342	.105	28·388	+·012	·765	92·6	66·7	25·9	113·4	37·3	76·1	83·8	89·8	78·5	+2·3
	Udaipur	1,925	27·969	27·864	·105	27·916		·776	89·5	65·4	24·1	108·1	35·3	72·8	82·0	87·1	76·9	
	Deesa	468	29·414	29·292	·122	29·349	+·001	·763	97·0	69·3	27·7	115·3	43·5	71·8	86·5	95·0	82·8	+2·9
	Jamnagar	61	·843	·734	·109	·788		·795	91·8	69·3	22·5	105·2	41·2	64·0	84·6	88·6	79·7	
Deccan	Belgaum	2,539	27·392	27·288	·104	27·340	+·012	·777	84·9	64·8	20·1	102·4	49·4	53·0	78·1	81·2	73·5	+0·9
	Sholapur	1,590	28·319	28·183	·136	28·253	+·005	·764	93·3	70·2	23·6	110·2	47·4	62·8	84·1	91·1	81·0	+1·8
	Akola	930	·967	·832	·135	·896	+·016	·768	94·7	69·0	25·7	113·5	39·9	73·6	85·6	92·7	81·5	+2·3
	Buldana	2,132	27·776	27·662	·114	27·716	+·012	·761	89·1	68·9	20·2	106·4	49·6	56·8	81·5	86·9	78·6	+1·5
	Khandwa	1,044	28·349	28·717	·132	28·780	+·016	·769	93·8	69·0	24·8	114·2	37·4	76·8	83·8	92·2	80·7	+2·5
	Nagpur	1,025	·860	·730	·130	·792	+·026	·761	94·1	70·5	23·6	114·2	44·0	70·2	84·1	90·9	81·6	+2·0
	Nagpur (Sanitary Commr.'s Office.)	1,013	·875	·747	·128	·808		·767	94·7	70·5	24·2	115·7	44·9	70·8	85·6	91·9	81·9	
	Hyderabad (Deccan)	1,690	·222	·102	·120	·162	+·016	·773	91·7	70·5	21·2	110·0	47·2	62·8	83·5	88·8	80·4	+1·8
West Coast	Bombay	37	29·886	29·785	·101	29·832	+·008	·808	87·4	76·6	10·8	94·9	64·1	30·8	82·1	84·4	81·2	+1·7
	Karwar	44	·901	·801	·100	·846	+·014	·822	86·6	74·1	12·7	92·9	60·4	32·5	82·5	84·9	79·9	+1·2
South India	Periyakulam	945	28·989	28·859	·130	28·934			92·1	70·2	21·9	102·3	55·1	47·2	83·9	87·7	79·9	
	Salem	940	29·009	·875	·134	·950	+·001	29·819	92·3	71·5	21·3	105·8	55·2	50·6	83·7	88·9	80·3	+0·6
	Chitaldroog	2,405	27·537	27·422	·115	27·482	+·009	·782	87·7	68·4	19·3	101·3	52·6	49·2	80·0	85·0	77·4	+1·5
	Bangalore	3,021	26·966	26·855	·111	26·915	+·012	·803	85·0	64·9	20·1	97·9	50·9	47·0	77·0	82·1	74·2	+1·3
	Hassan	3,091	·902	·801	·101	·857	+·012	·817	82·7	63·1	19·6	94·9	48·7	46·2	76·9	79·7	72·2	+0·7
	Mysore	2,518	27·454	27·336	·118	27·395	+·010	·808	86·9	66·2	20·7	97·9	52·3	45·1	78·6	83·5	75·7	+0·7
	Madras	22	29·906	29·792	·111	29·853	+·018	29·804	91·0	75·4	15·6	108·0	62·2	45·8	86·2	86·0	82·0	+0·2

* Mean of 10 months.

II.

at 63 Stations in India, Burma, etc., in the year 1902.

Temperature, Wet-bulb.				Vapour Tension.					Humidity.					Cloud.				Rainfall.		Station.	Meteorological Province.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Total rainfall for the year.	Heaviest rainfall during the year.		
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
74·9	79·1	78·9	77·6	·836	·932	·913	·894	+·011	88	79	76	81	−1	5·3	5·7	5·5	0	138·60	5·16	Port Blair.	Burma Coast and Bay Islands.
71·5	75·8	75·9	74·4	·759	·806	·768	·7.8	−·001	91	72	64	76	−2	5·1	6·1	5·6	+0·3	65·06	4·18	Rangoon.	
72·7	76·6	76·4	75·2	·744	·843	·829	·805	0	80	75	73	76	−3	4·5	5·0	4·8	−0·4	100·57	5·34	Diamond Island.	
	75·4	76·1			·830	·827				79	73			4·3	3·8	4·1	−0·5	188·58	10·05	Akyab.	
67·6	74·0	74·3	72·0	·692	·774	·760	·742	−·009	95	74	68	79	0	4·6	4·4	4·5	−0·1	121·32	8·17	Chittagong .	Bengal and Orissa.
68·5	*73·8	74·0	72·1	·702	·759	·716	·725	−·011	90	68	58	72	−4	4·7	4·4	4·6	+0·2	62·28	3·39	Calcutta (Alipore).	
71·2	76·1	76·3	74·5	·758	·843	·833	·811	−·008	87	74	70	77	−3	5·3	5·1	5·2	+0·3	64·09	7·38	Saugor Island.	
70·5	76·1	76·0	74·2	·755	·827	·821	·801	+·006	93	72	71	78	−2	5·2	5·1	5·2	+0·4	50·13	4·26	False Point.	
60·9	65·5	66·1	64·2	·496	·484	·464	·482	−·002	71	47	42	54	−4	4·6	5·5	5·1	+0·4	42·13	2·41	Hazaribagh .	Gangetic Plain and Chota Nagpur.
65·9	72·2	73·6	70·6	·646	·721	·712	·693	+·022	88	68	58	71	+1	3·1	2·6	2·9	0	54·13	5·46	Darbhanga.	
62·2	70·1	71·5	67·9	·546	·592	·560	·566	−·006	78	52	42	57	−3	3·2	3·8	3·5	+0·2	39·73	4·76	Allahabad.	
55·7	62·6	64·2	60·8	·416	·426	·446	·442	−·027	72	53	45	57	−6	3·5	3·9	3·7	−0·2	58·39	3·43	Dehra Dun .	Upper Sub-Himalayan.
57·6	65·6	67·0	63·4	·476	·503	·458	·479	−·017	79	51	38	56	−2	2·4	2·2	2·3	−0·8	43·27	5·84	Roorkee.	
58·8	65·2	67·6	63·9	·488	·493	·469	·483	−·030	74	48	37	53	−5	2·8	2·9	2·9	−0·1	32·93	5·72	Meerut.	
57·9	66·1	69·4	64·5	·471	·509	·485	·488	+·004	72	47	34	51	−1	2·2	1·9	2·1	−0·6	11·83	2·05	Lahore.	
59·4	64·5	66·5	63·5	·486	·468	·423	·459	−·047	72	45	33	50	−8	2·2	2·3	2·3	−1·2	23·38	4·36	Ludhiana.	
53·3	63·7	65·2	60·7	·371	·454	·419	·413	−·012	65	45	34	48	−5	2·3	3·5	2·9	−0·3	4·12	0·50	Peshawar .	N. W. Frontier Province Indus Valley and N.-W. Rajputana.
60·0†	?	?	?	·515†	?	?	?	?	69	?	?	?	?	1·7	1·8	1·8	−0·2	2·10	0·56	Jacobabad.	
67·2	73·9	76·2	72·4	·651	·736	·799	·72	+·059	75	61	64	67	0	2·0	1·9	2·0	−1·1	10·98	1·92	Kurrachee.	
58·3	66·9	68·6	64·6	·427	·4·9	·4·7	·454	−·010	59	40	32	43	−6	2·8	3·5	3·2	−0·3	18·71	2·95	Jaipur .	Eastern Rajputana, Central India and Gujarat.
60·4	68·6	71·2	66·7	·503	·565	·596	·555		75	49	45	56		2·3	2·9	2·6		21·59	2·83	Udaipur.	
61·1	69·0	69·8	66·7	·476	·503	·411	·46.	−·017	58	39	26	41	−4	2·1	2·4	2·4	−1·0	13·43	3·00	Deesa.	
65·1	71·7	72·7	69·9	·604	·637	·619	·620		77	51	44	57		2·1	2·0	2·1		10·24	1·77	Jamnagar.	
62·8	67·0	68·3	66·1	·569	·532	·540	·54	+·024	90	58	54	67	+3	4·7	5·2	5·0	+0·4	52·97	6·50	Belgaum .	Deccan.
62·6	68·6	69·6	66·9	·492	·515	·461	·485	·004	65	45	34	48	−3	4·1	5·7	5·0	+0·2	30·41	5·69	Sholapur.	
62·5	69·2	70·8	67·5	·511	·514	·472	·49.	+·008	69	43	34	49	−2	3·6	4·2	3·9	+0·1	27·45	2·21	Akola.	
60·3	65·9	66·7	64·3	·436	·458	·414	·430	−·030	61	44	36	47	−5	3·1	3·6	3·4	−0·6	27·58	2·54	Buldana.	
61·2	68·9	70·7	66·9	·478	·531	·490	·50[illegible]	+·002	65	47	36	49	−3	3·2	4·1	3·7	+0·2	33·68	4·02	Khandwa.	
62·0	68·6	70·0	66·9	·490	·525	·486	·497	−·031	63	46	37	49	−5	3·3	4·6	4·0	−0·5	28·24	3·53	Nagpur.	
63·2	70·3	72·2	68·6	·517	·571	·559	·549		68	48	41	52		3·1	4·4	3·8		32·47	3·21	Nagpur (Sany Commr.'s Office).	
	70·8	71·9	?		·607	·582		?		54	45		?	3·9	5·2	4·6	+0·7	24·97	2·18	Hyderabad (Deccan).	
72·4	75·4	76·7	74·8	·749	·803	·826	·793	+·018	81	72	70	74	−2	3·9	3·7	3·8	−0·5	71·97	5·97	Bombay .	West Coast.
71·8	75·4	76·6	74·6	·761	·790	·810	·787	+·026	90	71	68	76	−1	3·4	3·7	3·6	−0·2	151·63	12·16	Karwar.	
67·4	75·3	73·9	71·5	·641	·681	·658	·664		86	59	52	65		4·5	6·6	5·6		37·25	2·43	Periyakulam .	South India.
79·7	75·4	77·1	74·1	·710	·777	·784	·757	+·069	91	67	58	72	+5	5·0	6·5	5·8	+1·2	44·46	4·55	Salem.	
63·9	68·8	69·0	67·3	·550	·571	·516	·546	+·039	79	57	45	60	+2	4·7	5·5	5·1	+0·1	30·24	2·69	Chitaldroog.	
62·4	67·3	67·3	65·7	·545	·564	·502	·537	+·003	88	61	48	66	−1	4·8	5·3	5·1	+0·5	32·62	3·53	Bangalore.	
61·6	66·9	66·8	65·1	·541	·552	·517	·537	+·008	91	60	53	68	0	5·3	6·8	6·3	+0·3	42·47	5·35	Hassan.	
64	68·5	68·3	67·0	·579	·579	·511	·556	+·008	89	59	47	65	0	6·8	7·0	6·9	+1·4	30·97	4·39	Mysore.	
	76·7	77·2	76·0		·794	·822	·824	+·040		64	66	76	+2	5·0	4·7	4·9	−0·1	54·44	9·16	Madras .	

† Mean of 11 months.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

Meteorological Province.	Station.	Elevation of barometer above sea level in feet.	Pressure.						Temperature of air.								
			Mean of 10 hours	Mean of 16 hours.	Mean daily range.	Mean daily pressure.	Variation from normal.	Mean reduced to Sea Level and for gravity at 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
South India—*concld.*	Bellary	1,475	28·454	28·321	·133	28·390	+ ·011	·790	94·3	71·8	22·5	108·5	53·1	55·4	84·0	90·6	81·7	+1·2
	Waltair	226	29·574	29·566	·108	29·620		·787	87·3	75·7	11·6	103·0	59·9	43·1	84·1	83·6	80·6	
Hill Station, Baluchistan.	Quetta	5,502	24·659	24·573	·086	24·609			76·3	45·4	30·9	98·5	11·8	86·7	68·0	73·0	60·0	
Hill Stations, Northern India.	Leh	11,503	19·738	19·637	·101	19·694	+ ·030		54·0	29·5	24·5	81·5	0·9	80·6	44·6	50·9	41·3	+0·1
	Srinagar	5,204	24·924	24·831	·093	24·870	+ ·021		69·0	41·3	25·7	92·0	11·9	81·0	56·1	66·7	55·6	+1·2
	Kailang	10,037	20·978	20·897	·081	20·925			57·1	31·5	25·6	80·8	7·0	73·8	45·6	49·8	41·5	+0·6
	Simla (Ridge)	7,224	23·142	23·089	·053	23·108	+ ·029		61·5	50·1	11·4	83·5	31·2	52·3	57·0	58·4	55·0	−0·5
	Chakrata	7,022	·305*	·251	·054	·270	+ ·018		64·3	50·1	14·2	79·3	31·9	47·4	53·8	59·4	55·6	+0·1
	Ranikhet	6,069	24·120	24·047	·073	24·072*	+ ·019		68·2	53·9	14·4	85·9	33·7	52·2	63·0	64·4	60·1	+0·3
	Muktesar	7,600	22·875	22·811	·064	22·843			65·0	48·5	16·5	84·6	28·1	56·5	59·1	59·9	55·5	
	Katmandu	4,388	25·634	25·542	·092	25·587			76·5	53·0	23·5	88·4	28·6	59·8	67·2	71·7	63·6	·?
	Darjeeling	7,376	23·014	22·956	·058	22·984	+ ·007		59·9*	48·4*	11·5	71·8	30·4	41·4	55·5*	57·5*	53·5*	?
Hill Stations, Central India.	Mount Abu	3,915	26·060	25·985	·075	26·018	+ ·006		77·6	63·7	13·9	95·4	45·1	50·3	72·6	75·6	70·2	+1·9
	Pachmarhi	3,528	·465	26·372	·093	·415	+ ·019		82·7	62·7	20·0	101·7	32·5	69·2	75·5	79·2	72·0	+2·3
	Chikalda	3,642	·341	·245	·096	·290	+ ·006		81·4	65·2	16·2	89·4	45·3	54·1	74·9	79·6	73·0	+1·7
Hill Stations, South India.	Kodaikanal	7,688	22·861	22·792	·069	22·824			64·7	51·3	13·4	75·2	39·4	35·8	61·2	59·1	56·4	
	Cotacamund		23·088	23·020	·068	23·054			65·4	50·0	15·4	75·6	35·0	40·6	62·3	60·8	56·6	
Extra India	Aden*	94	29·344	29·727	·117	29·781		·806	88·1	78·2	9·9	98·7	68·5	30·2	84·4	86·3	82·9	
	Perim	201	·706	·593	·113	·646		·778	90·2	80·2	10·0	102·9	72·2	30·7	86·7	87·2	84·5	
	Minicoy	7	·962	·885	·077	·921		·853	86·7			92·1			84·3	83·9		
	Zanzibar	73	·993	·886	·112	·942		·941	84·2	76·8	7·4	91·1	71·1	20·0	80·4	83·4	80·3	
	Port Victoria (Seychelles).	15	·979	·893	·086	·936		·875	83·0	74·3*	8·7	87·6	67·9	19·7	81·7	82·5	77·6*	
	Mauritius (Pamplemouses).	181				·866	−·031	·979				93·2	51·9	41·3			74·1	+0·4

* Mean of 11 months.

II—*concld.*

at 63 Stations in India, Burma, etc., in the year 1902—concld.

Temperature, Wet-bulb.				Vapour Tension.					Humidity.					Cloud.				Rainfall.		Station.	Meteorological Provinces.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Mean 10 hours.	Mean 16 hours.	Mean daily.	Variation from normal.	Total rainfall for the year.	Heaviest fall during the year.		
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
65·5	71·2	71·9	69·5	·565	·609	·555	·576	+·028	72	52	40	55	+1	4·3	5·3	4·8	−0·2	22·21	2·90	Bellary.	South India—*concld.*
68·5	74·6	75·2	72·8	·612	·741	·775	·709		68	63	66	66		5·2	5·2	5·2		33·73	3·93	Waltair.	
41·1	51·7	53·1	43·7	·237	·237	·215	·230		73	34	28	45		1·4	2·5	2·0		3·90	0·54	Quetta . .	Hill Station, Baluchistan.
25·9	33·6	37·4	32·3	·129	·130	·141	·133	−·002	70	35	31	45	P	4·1	5·3	4·7	−0·7	2·94	0·49	Leh . .	Hill Stations, Northern India
41·5	53·2	62·3	52·3	·277	·419	·563	·420	+·058	86	83	79	83	+6	3·5	4·3	3·9	−0·7	22·41	1·27	Srinagar.	
29·8	38·0	39·6	35·8	·169	·188	·180	·179	−·002	86	53	47	62	0	4·7	6·2	5·5	−0·1	21·12	2·32	Kailang.	
44·0	47·9	49·4	47·1	·245	·261	·282	·263	−·026	62	52	54	56	−4	4·2	5·0	4·6	−0·5	40·36	1·65	Simla (Ridge).	
45·1*	50·4	50·8	48·7*	·269*	·299	·304	·290*	?	67*	57	57	60*	?	3·9	5·1	4·5	−0·1	58·65	3·93	Chakrata.	
48·7	53·7	54·3	52·2	·312	·334	·338	·328	−·016	70	56	53	60	−5	3·6	4·2	3·9	−0·5	49·37	4·42	Ranikhet.	
43·7	50·4	51·7	48·6	·255	·295	·318	·289		69	55	53	60		3·5	4·4	4·0		42·18	2·92	Muktesar.	
51·8	59·7	61·3	57·6	·409	·456	·447	·437	−·011	91	65	55	70	−2	4·1	5·0	4·6	−0·1	67·89	6·35	Katmandu.	
46·8*	52·1*	53·8*	50·9*	·322*	·371*	·391*	·361*	?	93*	80*	79*	83*	?	5·6	6·4	6·0	−0·6	150·78	12·20	Darjeeling.	
54·6	59·2	60·5	58·1	·341	·366	·372	·359	−·006	56	46	41	48	−5	3·1	3·3	3·2	−0·4	30·99	4·87	Mount Abu .	Hill Stations, Central India.
56·3	62·0	63·3	60·5	·406	·415	·409	·410	−·003	70	49	44	54	−3	3·5	4·2	3·9	−0·3	52·44	5·28	Pachmarhi.	
57·3	62·3	64·5	61·5	·408	·429	·444	·427	−·005	65	52	48	55	−3	3·4	4·1	3·8	−0·6	45·56	4·16	Chikalda.	
46·9	54·2	55·1	51·9	·284	·356	·399	·345		74	67	80	75		5·0	7·2	6·1		72·53	4·08	Kodaikanal .	Hill Station South India.
47·7	54·4	55·2	52·4	·314	·348	·381	·348		85	63	72	73		5·3	6·8	6·1		66·05	4·03	Ootacamund. .	
71·6	76·0	75·0	74·2	·696	·789	·728	·741		71	67	57	65		3·9	2·6	3·3		0·13	0·05	Aden . .	Extra India.
76·3	79·7	79·8	78·6	·862	·936	·933	·911		83	73	72	76		0·8	0·6	0·7		2·66	1·35	Perim.	
	77·8	77·6			·875	·865				75	75			5·3	6·0	5·7		34·99	3·67	Minicoy.	
73·0	76·2	76·2	76·0	·765	·859	·813	·811		83	82	71	78		6·8	5·3	6·1		65·49	4·82	Zanzibar.	
73·1	76·1	76·2	75·2	·798*	·832	·825	·817*		94*	76	74	82*		5·8	6·0	5·9		87·21	4·20	Port Victoria (Seychelles).	
							·635	+·010				74	0					47·11	5·40	Mauritius (Pamplemousses).	

Corrigenda in India Monthly Weather Reviews and the Annual Summary for the year 1902.

TEXT.

Page.	Column.	Part.	Correction.
66	...	February 1902 .	*For* "0·3", "0·20" and "+0·19" *read* "0·2", "0·16" and "+0·23", respectively, against Lower Burma (Deltaic) in figure columns 2, 4 and 5 of the tabular statement.
66	...	Ditto . .	*For* "0·08" and "—0·03" *read* "0·05" and "0", respectively, against Central Burma in the figure columns 4 and 5 of the tabular statement.
66	...	Ditto . .	*For* "0·6", "0·22" and "—0·14" *read* "0·4", "0·19" and "—0·11", respectively, against Upper Burma in the figure columns 2, 4 and 5 of the tabular statement.
66	...	Ditto . .	*For* "0·14" and "—0·13" *read* "0·16" and "—0·15", respectively, against Arakan in the figure columns 4 and 5 of the tabular statement.
198	1	June 1902 . .	*For* "the most severe that has" *read* "the severest that have" in the 2nd line of paragraph 4.
312	...	August ,, . .	*For* "15·18" and "+3·34" *read* "14·62" and "+3·90", respectively, against Assam (Brahmaputra) in the figure columns 4 and 5 of the tabular statement.
653	...	India Weather Review, Annual Summary, 1902.	*For* "65·17", "+8·87", "91·98" and "+6·88" *read* "64·61", "+9·43", "91·42" and "+7·44", repectively, against Assam Brahmaputra in the figure columns 8, 9, 14 and 15 of the tabular statement.
666	1	Ditto . .	*For* "it averaged 22" *read* "it averaged 27" in the 3rd line of paragraph 7.
666	1	Ditto . .	*For* "15·18", "+3·34" and "+22" *read* "14·62", "+3·90" and "+27", respectively, against Assam Brahmaputra in the figure columns 2, 3 and 4 of the 1st tabular statement.

Corrigenda in India Monthly Weather Reviews for the year 1902—*contd.*

TABLES I AND II.

Page.	Part.	Table.	Meteorological Province or station.	Heading.	Column number.	Correction.
ii	January 1902	I	Dibrugarh	Elevation of bar-cistern, etc.	4	*For* "394" *read* "353".
v	Ditto	I	Allahabad	Rainfall	43, 45, 46, 48, 49 and 51.	*For* "1", "—0·60", "0·39", "—0·37", "0·39" and "—0·61" *read* "2", "+0·40", "0·53", "—0·23", "0·53" and "—0·47", respectively.
vi, xxvi, xlvi, lxvi, lxxxvi, cvi, cxxx, cliv, clxxiv.	January to September 1902.	I	Veraval	Elevation of bar-cistern, etc.	4	*For* "8" *read* "18".
xi	January 1902	I	Leh	Rainfall	49 and 51	*For* "0·09" and "—0·41" *read* "0·10" and "—0·40", respectively.
xii	Ditto	I	Teheran	Temperapture of air	17	*For* "+5·3" *read* "+5·2".
xviii	Ditto	II	Minicoy	Pressure	4, 5 and 9	*Omit* "+" after figures in columns 4, 5 and 9.
xxvi	February 1902	I	Punjab (Submontane)	Number of District.	1	*For* "9" *read* "29".
xxx	Ditto	I	Leh	Temperature of air	14, 15, 18 and 19.	*For* "38·7", "+7·3", "26·8" and "+6·2" *read* "39·1", "+7·7", "27·0" and "+6·4", respectively.
xxxviii	Ditto	II	Leh	Ditto	10 and 12.	*For* "39·4" and "24·6" *read* "39·6" and "24·8", respectively.
xlii, lxii. lxxvii, cii, cxxvi, cl, clxx, and cxc.	March to October 1902	I	Rangoon	Elevation of bar-cistern, etc.	4	*For* "41" *read* "57".
lii, liii	March 1902	I	Straits Settlement	Meteorological Province or District.	2 and 54.	*For* "Straits Settlement" *read* "Straits Settlements".
lvi, lxxvi, xcvi, cxvi, cxl, clxiv, clxxxiv, and cciv.	March to October 1902	II	Rangoon	Elevation of bar-cistern, etc.	3	*For* "41" *read* "57".
lvi	March 1902	II	Rangoon	Pressure	8 and 9.	*For* "—·035" and "·801" *read* "—·018" and "·818", respectively.
lxvi	April 1902	I	Neemuch	Pressure 8 A.M., etc.	5	*For* "28·24" *read* "28·204".
lxxvi	Ditto	II	Rangoon	Pressure	5, 6, 7, 8, and 9.	*For* "·705", "·160", "·789", "—·008" and "·766" *read* "·702", "·158" "·790", "+·010" and "·784", respectively.
lxxvi	Ditto	II	Darbhanga	Temperature of air.	17	*For* "92·0" *read* "91·9".
lxxviii	Ditto	II	Port Victoria (Seychelles)	Ditto	10	*For* "82·8" *read* "86·2".
lxxviii	Ditto	II	Port Victoria (Seychelles)	Ditto	11, 12, 14, 15, 18, and 19.	*Insert* "75·7", "10·5", "72·7", "14·9", "80·9" and "+0·2", respectively.
lxxix	Ditto	II	Aden	Wind velocity	51	*For* "356 ¶ *" *read* "355 *".
lxxix	Ditto	II	Port Victoria (Seychelles)	Vapour tension and Humidity.	24, 25, 27, 28, 29, 32 and 33.	*Insert* "·850", *read* "·856" *for* "·85" and *insert* "·852", "·703", "·951", "78" and "+1", respectively.
lxxxii	May 1902	I	Diamond Island	Temperature of air	14, 15, 16, 17, 19, 20, 23, 24 and 25.	*For* "90·5", "?", "79·6", "+0·8", "?", "10·9", "74·7", "6th", and "22·7" *read* "90·9", "+2·3", "79·2", "+0·4", "+1·4", "1·7", "74·2", "28th" and "23·2", respectively.
lxxxiv	Ditto	I	Motihari	Ditto	14, 18 and 20.	*For* "95·3", "84·9" and "20·9", *read* "95·2", "84·8" and "20·8", respectively.
lxxxv	Ditto	I	Bankura	Rainfall	46, 48, 49 and 51.	*For* "7·19", "+3·30", "7·19", and "+3·30" *read* "7·21", "+3·32", respectively. "7·21" and "+3·32",

Corrigenda in India Monthly Weather Reviews for the year 1902—*contd.*

TABLES I AND II—*contd.*

Page.	Part.	Table.	Meteorological Province or station.	Heading.	Column number.	Correction.
lxxxv	May 1902	I	Motihari	Hygrometer 8 A.M.	40 and 41	*For* "·76" and "·776" *read* "·75" and "·770", respectively.
lxxxvi	Ditto	I	Bharatpore	Pressure 8 A.M., etc.	7	*Insert* "29·624".
xcvi	Ditto	II	Rangoon	Pressure	8 and 9	*For* "—·013" and "·719" *read* "+·004" and "·736", respectively.
xcvi and xcvii	Ditto	II	Indus Valley and N. W. Rajputana.	Meteorological Province.	1 and 56	*For* "Indus Valley and N. W. Rajputana" *read* "N. W. Frontier Province, Indus Valley and N. W. Rajputana."
xcvi	Ditto	II	Jacobabad	Temperature, Wet bulb.	21, 22 and 23.	*For* "83·8", "88·0" and "80·8" *read* "?".
xcvii	Ditto	II	Jacobabad	Vapour tension and Humidity.	25, 26, 27, 30, 31, 32 and 33.	*For* "·917", "·991", "·845", "45", "36", "47" and "+17" *read* "?".
xcviii	Ditto	II	Zanzibar	Temperature, Wet bulb.	21 and 22	*For* "76·4‖" and "76·3‖" *read* "76·3" and "76·2", respectively.
xcix	Ditto	II	Zanzibar	Vapour tension and Humidity.	25, 26, 27, 28, 30, 31, 32 and 33.	*For* "·871‖", "·820‖", "820" "+·025", "88‖", "73‖", "82" and "0" *read* "·868", "·815", "817", "+·022", "87", "73", "81", and "—1", respectively.
cv	June 1902	I	Bankura	Rainfall	49 and 51	*For* "11·09" and "—3·12" *read* "11·11" and "—3·10", respectively.
cvi	Ditto	I	Bharatpur	Pressure 8 A.M., etc.	7	*Insert* "29·540".
cvii	Ditto	I	VII—N. W. Frontier Province, Indus Valley and North-West Rajputana.	Rainfall	46 and 48	*For* "1·89" and "+0·96" *read* "2·55" and "+1·61", respectively.
cvii	Ditto	I	Kurrachee	Ditto	46, 48, 49, 51 and 52.	*For* "3·35", "+2·64", "5·20" "+4·49" and "1·50" *read* "10·59", "+9·88", "12·44", "+11·73" and "7·17", respectively.
cix	Ditto	I	Belgaum	Wind direction	34	*For* "13" *read* "3".
cxii	Ditto	I	Teheran	Temperature of air.	14, 15 and 18.	*For* "99·0‡", "+4·6" and "86·0‡" *read* "99·3", "+4·9" and "86·2‡", respectively.
cxii	Ditto	I	Teheran	Ditto	19	*Insert* "+5·4."
cxiii	Ditto	I	Darjeeling	Rainfall	51	*Insert* "—3·91."
cxiii	Ditto	I	Aden	Wind direction	28	*Insert* "12."
cxiii	Ditto	I	Perim	Ditto	28	*For* "12" *read* "3."
cxiii	Ditto	I	Kabul	Ditto	28	*For* "3" *read* "6."
cxiii	Ditto	I	Kashgar	Ditto	28	*Omit* "6."
cxvi	Ditto	II	Rangoon	Pressure	8 and 9	*For* "—·029" and "·683" *read* "—·012" and "·700", respectively.
cxvi	Ditto	II	Jacobabad	Temperature	21, 22 and 23.	*For* "88·0", "92·7" and "86·3" *read* "?".
cxvii	Ditto	II	Jacobabad	Vapour tension and Humidity.	25, 26, 27, 28, 30, 31, 32 and 33.	*For* "1·177", "1·295", "1·121", "+·462", "66", "56", "66" and "+26" *read* "?."
cxvii	Ditto	II	Kurrachee	Rainfall	53 and 54	*For* "3·35" and "1·50" *read* "10·59" and "7·17", respectively.
cxxii and cxxiii	Ditto	III	Trkhutsk and Bussorah.	Station	...	*For* "Trkhutsk" and "Bussorah" *read* "Irkhutsk" and "Bussrah" in the 9th and 15th lines, respectively.
cxxii and cxxiii	Ditto	IV	Trkhutsk	Ditto	...	*For* "Trkhutsk" *read* "Irkhutsk" in 7th line.
cxxiii	Ditto	III	Teheran	Ditto	...	*For* "Teheran" *read* "Chitral" in 10th line.

Corrigenda in India Monthly Weather Reviews for the year 1902—*concld.*

TABLES I AND II—*concluded.*

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
cxxiii	June 1902	III	Chitral	Station	...	*For* "Chitral" *read* "Teheran" in the 11th line.
cxxiii	Ditto	IV	...	Ditto	...	*Omit* "*" against Tiflis, Baku, Tashkent, Barnaul, Omsk, Tomsk, Trkhutsk in the 1st, 2nd, 3rd, 4th, 5th, 6th and 7th lines, respectively.
cxxviii	July 1902	I	North Bihar	Number of District.	1	*For* "1" *read* "17".
cxxx	Ditto	I	Bareilly	Elevation of barcistern, etc.	4	*For* "56" *read* "568".
cxxx	Ditto	I	Patiala	Temperature of air.	22	*For* "1t" *read* "1st".
cxxxi	Ditto	I	Kurrachee	Rainfall.	49 and 51	*For* "5·24" and "+0·87" *read* "12·48" and "+8·11", respectively.
cxl	Ditto	II	Rangoon	Pressure	8 and 9	*For* "—·009" and "·702" *read* "+·008" and "·719", respectively.
cxl	Ditto	II	Karwar	Temperature of air.	23	*For* "?" *read* "75·4".
cxli	Ditto	II	Diamond Island	Rainfall	53	*For* "18·37" *read* "18·36".
cliii	August 1902	I	Allahabad	Temperature of air.	22	*For* "19t" *read* "19th".
clv	Ditto	I	Kurrachee	Rainfall.	49 and 51	*For* "7·84" and "+1·70" *read* "15·08" and "+8·94", respectively.
clviii, clxxviii, cxcviii, ccxviii and ccxxxviii	August to December 1902.	I	Kurnool	Elevation of barcistern, etc.	4	*For* "958" *read* "945".
clviii, clxxviii, cxcviii, ccxviii, and ccxxxviii.	Ditto	I	Kurnool	Pressure 8 A.M., etc.	7	*For* "29·747", "29·802", "29·951", "30·016" and "30·003" *read* "29·736", "29·791", "29·940", "30·004" and "29·992", respectively.
clxiv	August	II	Rangoon	Pressure	8 and 9	*For* "—·034" and "·698" *read* "—·017" and "·715", respectively.
clxiv	Ditto	II	Ludhiana	Pressure and Temperature of air.	9, 10, 12, 16, 18 and 19.	*For* "·515‡", "96·1‡", "14·8", "89·5‡" "87·8" and "+2·1" *read* "·516" "96·6‡", "15·3", "89·6", "88·1‡" and "+2·4", respectively.
clxiv	Ditto	II	Kurrachee	Temperature of air	19	*For* "+1·" *read* "+1·8".
clxiv	Ditto	II	Akola	Ditto	19	*For* "+·1" *read* "+3·1".
clxiv	Ditto	II	Nagpur	Ditto	19	*For* "+2·" *read* "+2·6".
clxv	Ditto	II	Ludhiana	Vapour tension and Humidity.	25, 27, 28 and 30.	*For* "·831‡", "·804", "—·070 and "60‡" *read* "·827", "·803", "—·071", and "60", respectively.
clxvi	Ditto	II	Waltair	Temperature of air.	14	*For* "79·4" *read* "74·9".
clxxv	September 1902	I	Kurrachee	Rainfall	49 and 51	*For* "10·96" and "+4·31" *read* "18·20" and "+11·55", respectively.
clxxxiv	Ditto	II	Rangoon	Pressure	8 and 9	*For* "—·004" and "·755" *read* "+·013" and "·772", respectively.
cxc	October 1902	I	Chittagong	Temperature of air.	23	*For* "6·66" *read* "66·6".
cxcv	Ditto	I	Kurrachee	Rainfall	49 and 51	*For* "10·96" and "+4·31" *read* "18·20" and "+11·55", respectively.
cciv	Ditto	II	Rangoon	Pressure	8 and 9	*For* "+·050" and "·874†" *read* "+·067" and "·891†", respectively.
ccx	November 1902	I	Lower Burma	Number of District.	1	*Insert* "2".
ccxv	Ditto	I	Kurrachee	Rainfall	49 and 51	*For* "10·96" and "+4·24 *read* "18·20" and "+11·48", respectively.
ccxxvi	Ditto	II	Minicoy	Pressure	4, 5, 7 and 9.	*For* "·985†", "·893†", "·933" and "·870†" *read* "·984", "·891", "·937" and "·869", respectively.
ccxxx	December 1902	I	East Bengal	Number of District	1	*For* "9" *read* "6".
ccxxxviii	Ditto	I	Punjab and N. W. Frontier Province.	Number of District.	1	*For* "36" *read* "30".
ccxlvii	Ditto	II	Hill Stations	Meteorological province.	56	*For* "Hill stations" *read* "Hill stations, South India."

EXPLANATION OF PLATES.

PLATE I.—A chart of India showing the 11 meteorological provinces and 57 districts of India.

PLATE II.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of January and February 1902. This chart and the three following charts have been prepared to illustrate the data given in Table XXXIV. These charts are drawn up in the same manner as the rainfall chart (Plate V) in the Monthly Weather Reviews of the year 1902.

PLATE III.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of March to May 1902.

PLATE IV.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of June to October 1902.

PLATE V.—A chart of India showing the normal average rainfall and the variation of the rainfall from the normal of the months of November and December 1902.

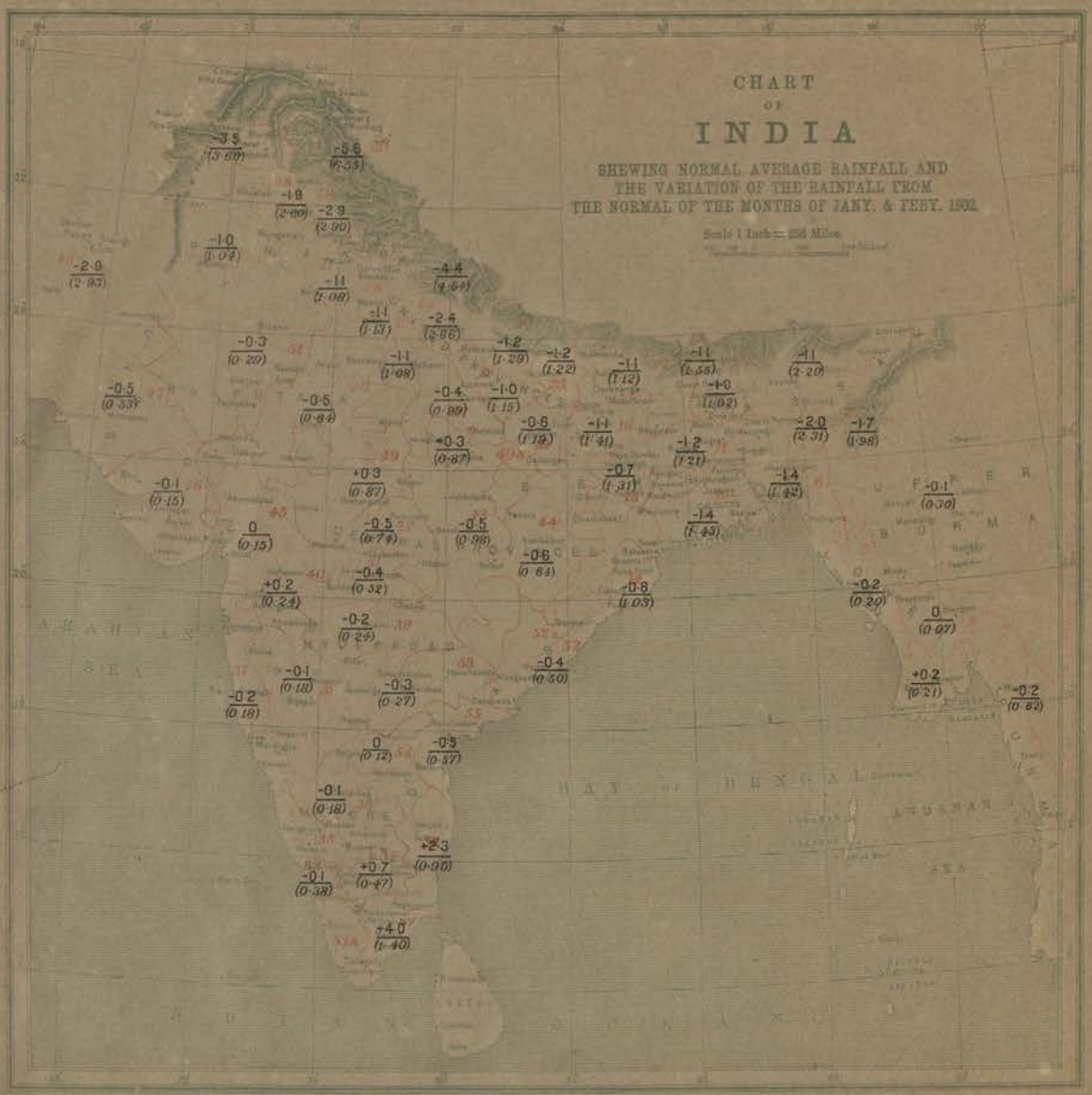
PLATE VI.—Chart showing the tracks of the more important cyclonic storms of 1902 in the Indian area during the south-west monsoon, a brief summary of which is given on pages 590 to 593.

Survey, G. I. O., Calcutta.

Explanation.

The name of the districts can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

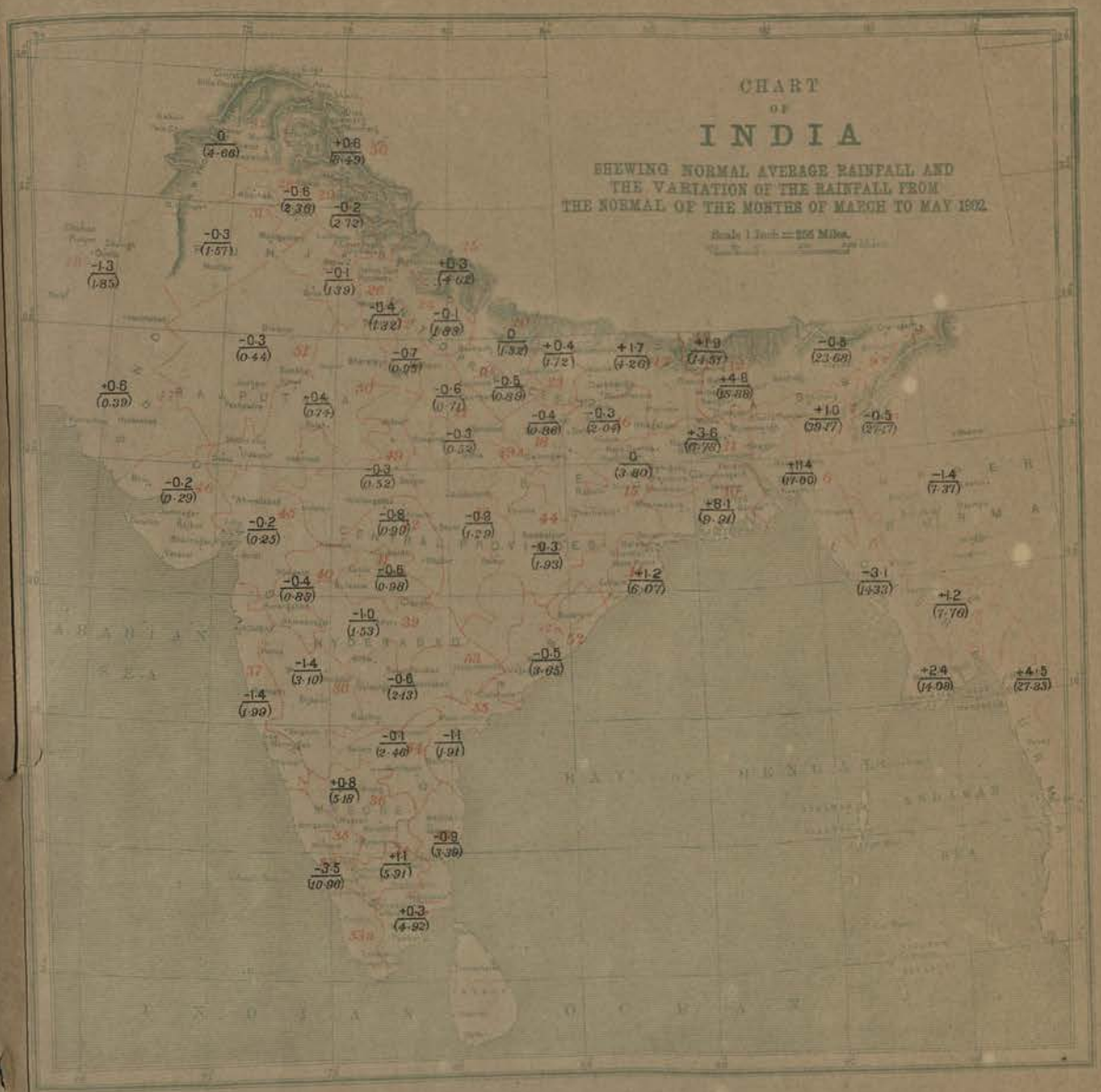
1. Tenasserim
2. Lower Burma Deltaic
3. Central do.
4. Upper do.
5. Arakan
6. East Bengal
7. Assam, Surma
8. Do., Hills
9. Do., Brahmaputra
10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. United Provinces, East
19. South Oudh
20. North do.
21. United Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab Submontane
30. Do., and North-West Frontier Province, Hills
31. North Punjab
32. West Punjab
33. Malabar
33a. Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar and Cutch
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. do.
50. Rajputana East, Central India West
51. West Rajputana
52. Madras, East Coast, North
52(a). Do. do. do. (a)
53. Hyderabad, South
54. Madras, Central
55. Madras, East Coast, Central
56. Do. East Coast, South
57. Madras, South



Explanation.

The Chart gives the variations of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma with the exception of Upper Burma, for which rainfall data have not been obtained for a sufficient number of years to furnish reliable and useful means. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division (usually with a + or − sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage variation can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

1. Tenasserim	17. North Bihar	32. West Punjab	47. Sind
2. Lower Burma Delta	18. United Provinces, East	33. Malabar	48. Baluchistan Hills
3. Central do.	19. South Oudh	33a. Travancore	49. Central India, East
4. Upper do.	20. North do.	34. Madras, South Central	49a. Do. do.
5. Arakan	21. United Provinces, Central	35. Coorg	50. Rajputana East, Central India West
6. East Bengal	22. Do. do., West	36. Mysore	51. West Rajputana
7. Assam, Surma	23. Do. do., East Submontane	37. Konkan	52. Madras, East Coast, North
8. Do., Hills	24. Do. do., West do.	38. Bombay Deccan	52(a). Do. do. do. (s)
9. Do., Brahmaputra	25. Do. do., Hills	39. Hyderabad, North	53. Hyderabad, South
10. Delhi& Bengal	26. South East Punjab	40. Khandesh	54. Madras, Central
11. Central do.	27. South do.	41. Berar	55. Madras, East Coast, Central
12. North do.	28. Central do.	42. Central Provinces, West	56. Do. East Coast, South
13. Bengal Hills	29. Punjab, Submontane	43. Do., Central	57. Madras, South
14. Orissa	30. Do., and North-West Frontier Province, Hills	44. Do., East	
15. Chota Nagpur	31. North Punjab	45. Gujarat	
16. South Bihar		46. Kathiawar and Cutch	



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4. Upper do.
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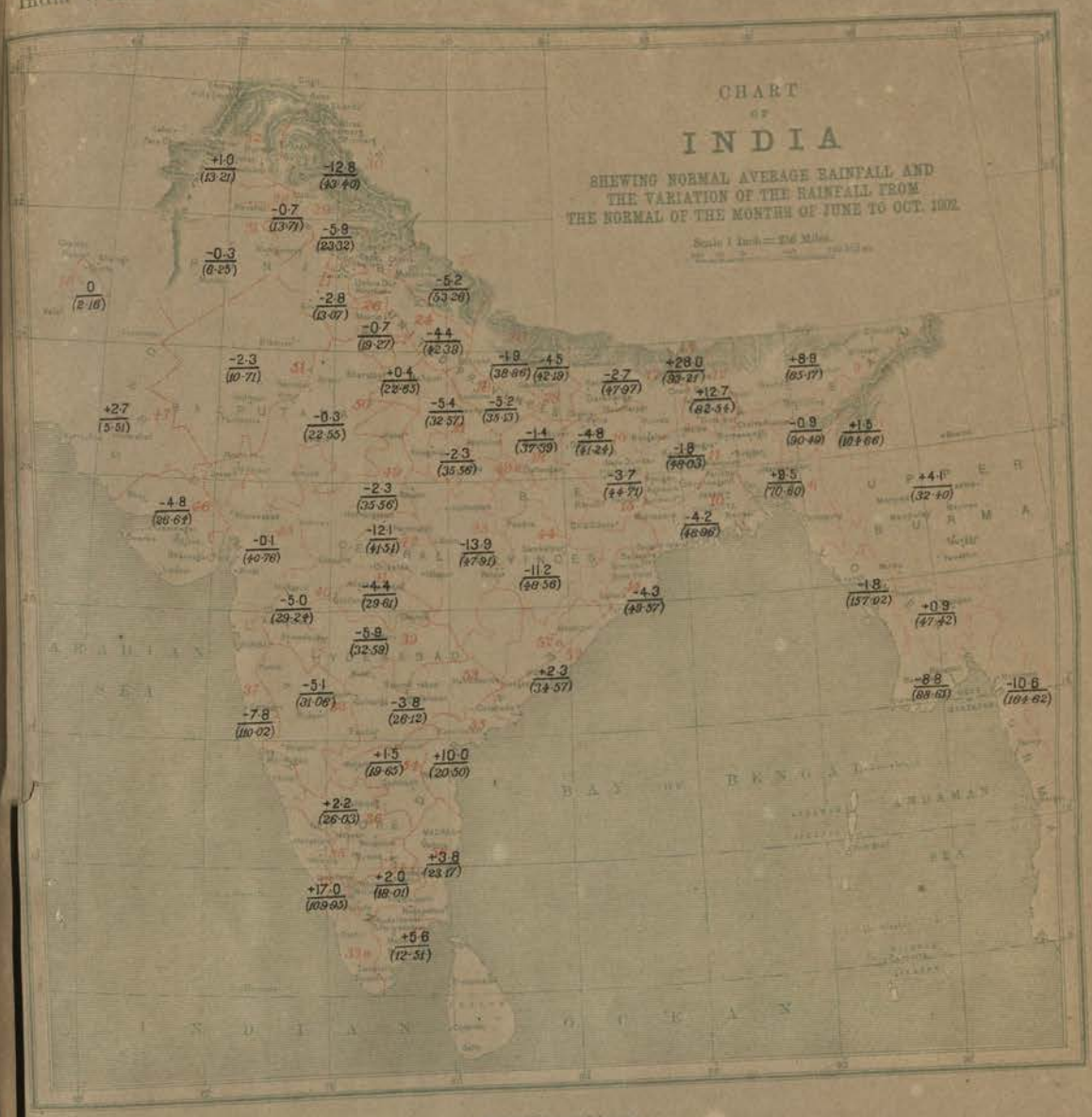
6. East Bengal
7. Assam, Surma
8. Do., Hills
9. Do., Brahmaputra
10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. United Provinces, East
19. South Doab
20. North do.
21. United Provinces, Central
22. Do. do. West
23. Do. do., East Satpuras
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., and North-West Frontier Province, Hills
31. North Punjab
32. West Punjab
33. Malabar
33a. Travancore
34. Madras, South Central
35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
39. Hyderabad, North
40. Khandesh
41. Berar
42. Central Provinces, West
43. Do., Central
44. Do., East
45. Gujarat
46. Kathiawar and Cutch
47. Sind
48. Baluchistan Hills
49. Central India, East
49a. Do. West
50. Rajputana East, Central India West
51. West Rajputana
52. Madras, East Coast, North
52a. Do. do. do. (a)
53. Hyderabad, South
54. Madras, Central
55. Madras, East Coast, Central
56. Do. East Coast, South
57. Madras, South



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10. Deltaic Bengal
11. Central do.
12. North do.
13. Bengal Hills
14. Orissa
15. Chota Nagpur
16. South Bihar
17. North Bihar
18. United Provinces, East
19. South Ganh
20. North do.
21. United Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., and North-West Frontier Province, Hills
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51. West Rajputana
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52a). Do. do. do. (a)
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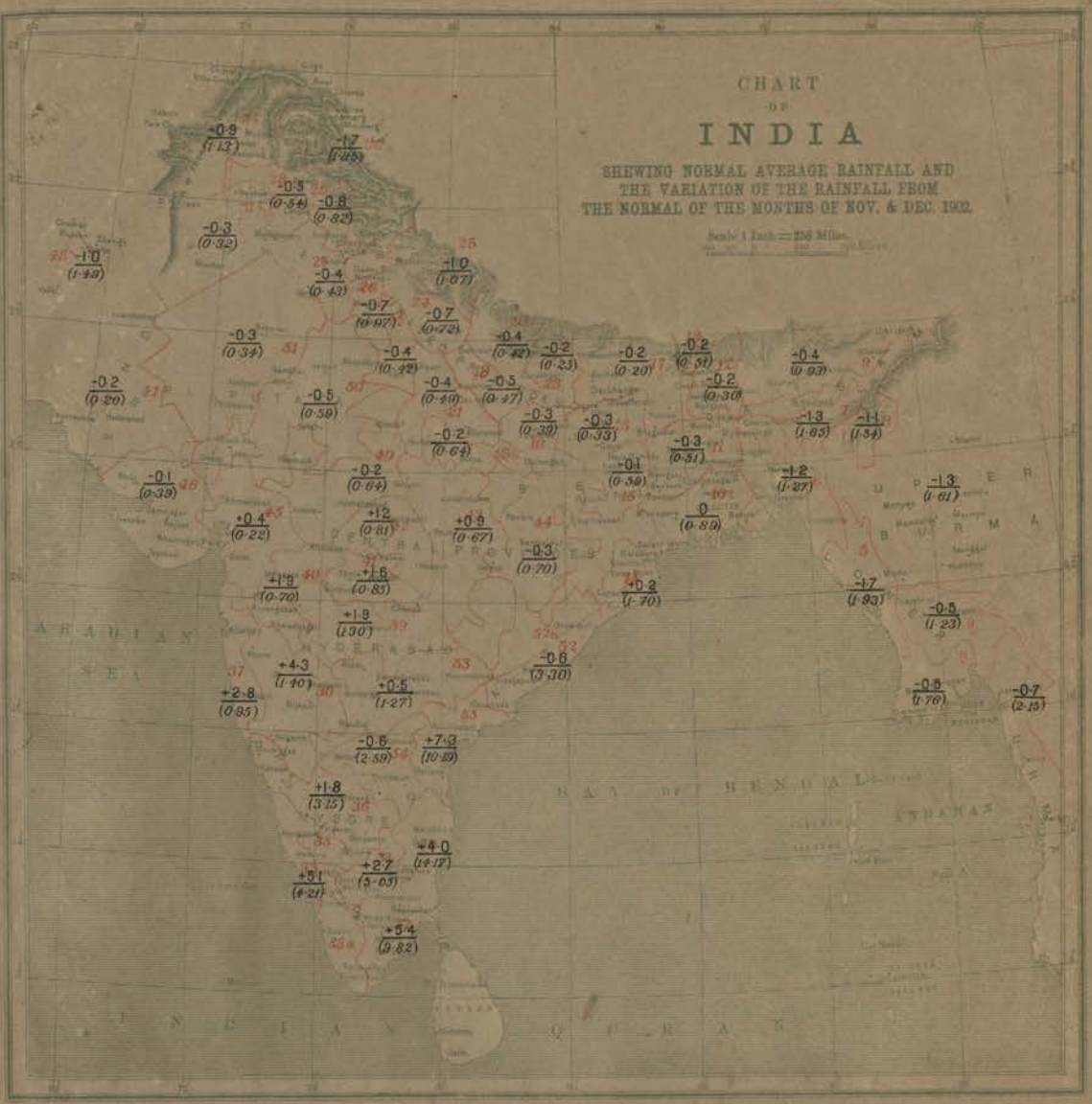

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11. Central do.
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14. Orissa
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17. North Bihar
18. United Provinces, East
19. South Oudh
20. North do.
21. United Provinces, Central
22. Do. do., West
23. Do. do., East Submontane
24. Do. do., West do.
25. Do. do., Hills
26. South East Punjab
27. South do.
28. Central do.
29. Punjab, Submontane
30. Do., and North-West Frontier Province Hills
31. North Punjab
32. West Punjab
33. Malabar
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35. Coorg
36. Mysore
37. Konkan
38. Bombay Deccan
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40. Khandesh
41. Berar
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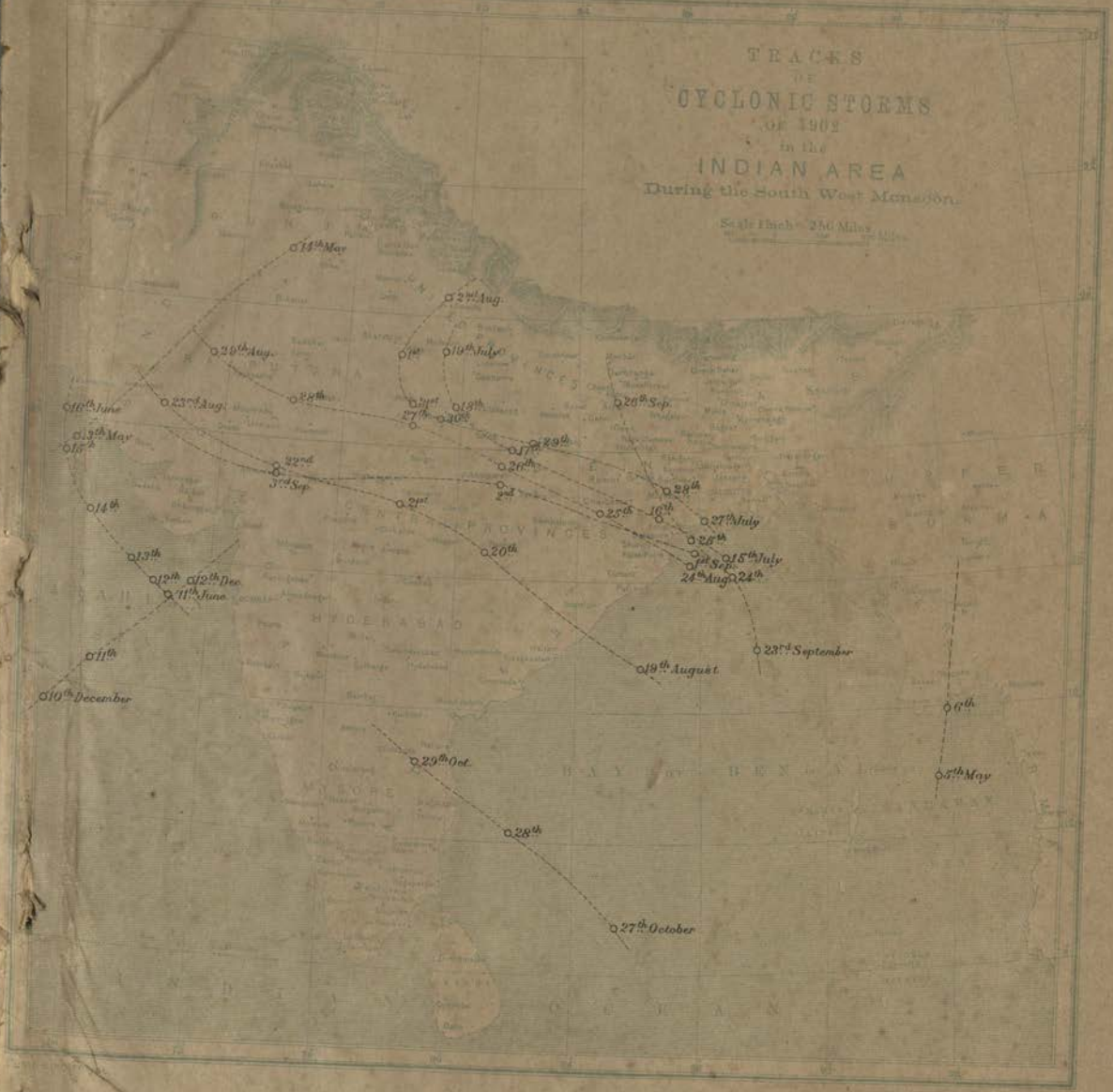
52a. Do. do. do. (a)
53. Hyderabad, South
54. Madras, Central
55. Madras, East Coast, Central
56. Do. East Coast, South
57. Madras, South


TRACKS
OF
CYCLONIC STORMS
OF 1902
in the
INDIAN AREA
During the South West Monsoon.
Scale Inch = 250 Miles
14th Mar
2nd Aug
29th Aug
1st
10th July
16th June
23rd Aug
28th
31st
18th
26th Sep
27th
30th
13th May
15th
29th
17th
22nd
3rd Sep
26th
2nd
28th
14th
2nd
25th
18th
27th July
28th
13th
20th
1st Sep
15th July
12th
12th Dec
24th Aug
24th
11th June
23rd September
11th
19th August
10th December
6th
29th Oct
7th May
28th
27th October

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on 01 February, 2020